

JPRS 75424

2 April 1980

# **USSR Report**

**AGRICULTURE**

**No. 1226**

**FBIS**

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**CONTENTS****PAGE****MAJOR CROP PROGRESS AND WEATHER REPORTING**

Harvest and Anti-Weed Campaign in Krasnodarskiy Kray Reviewed (S. Medunov; SEL'SKIYE ZORI, Nov 79) .....	1
Proper Care of Agricultural Land in North Caucasus Emphasized (SEL'SKIYE ZORI, Oct 79) .....	16
Discussion of Harvest in Saratovskaya Oblast (STEPNYYE PROSTORY, Dec 79) .....	20
Harvest Review of Various Regions of Siberia (ZEMLYA SIBIRSKAYA DAL'NEVOSTOCHNAYA, Jan 80) .....	31
General Overview	
Harvest in Omskaya Oblast, by S. I. Manyakin	
Harvest in Altayskiy Kray, by N. F. Aksenov	
Harvest in Novosibirskaya Oblast, by N. G. Sorukov	
Harvest in Amurskaya Oblast, by N. V. Pavlov	
Review of Harvest in Orenburgskaya Oblast (A. Kovalenko; SEL'SKOYE KHOZYAYSTVO ROSSII, Jan 80). .	50
Winter Field Work in Tadzhikistan Reviewed (K. Madaliyev; SEL'SKAYA ZHIZN', 7 Mar 80).....	54
Briefs	
Opening of Navigation	56
For the Future Harvest	56
Sowing of Grain Crops	56
Agricultural Aviation at Work	56
Sowing of Spring Crops	56
Increase in Soybean Production	56

CONTENTS (Contents)	Page
LIVESTOCK	
Livestock Situation, Prospects in Latvia (I. Penelis; SOVETSKAYA LATVIYA, 7 Feb 80) .....	58
Improved Prospects in Latvia Suggested for Animal Husbandry (SOVETSKAYA LATVIYA, 14 Feb 80) .....	61
TILLING AND CROPPING TECHNOLOGY	
Problems With Soybean Cultivation in Volga Area Discussed (P. Gubanov; SEL'SKAYA ZHIZN', 13 Feb 80) .....	65
Briefs	
Intensive Winter Wheat	70
Agricultural Support Point	70
Rye Cultivation in Belorussia	71
Uzbekskaya-2 Soybean Variety	71
Aphid Resistant Wheat	71

## MAJOR CROP PROGRESS AND WEATHER REPORTING

### HARVEST AND ANTI-WEED CAMPAIGN IN KRASNODARSKIY KRAY REVIEWED

Krasnodar SEL'SKIYE ZORI in Russian No 11, Nov 79 pp 4-10

[Article by S. Medunov, first secretary of the Krasnodarskiy Kray CPSU Committee: "The Key To High Yields"]

[Excerpts] Persistently striving to achieve a high culture of farming and the highest yield from each hectare of their fields, the Kuban' workers have launched a tremendous volume of work aimed at completely destroying weeds.

As a result of steady implementation of the party's agrarian policies, developed during the March (1965) Plenum of the CPSU Central Committee and further developed in subsequent decisions handed down during party congresses and plenums, important quantitative and qualitative changes have taken place in recent years in agricultural production throughout the kray. It has been raised to a new and higher stage in its development and it is becoming more stable in nature. The material-technical base of agriculture has been strengthened considerably, remarkable cadres of personnel have developed and further growth is ensured in the production volumes and state procurements of farming and livestock husbandry products.

During the 1976-1978 period, the value of gross agricultural output in the public sector amounted to an average of 3.37 billion rubles -- 320 million more rubles than during the Ninth Five-Year Plan.

Great positive results were achieved in the production of grain. During 3 years of the current five-year plan, 24.6 million tons of grain were obtained and the average annual yield exceeded the level for the Ninth Five-Year Plan by 18 percent. The production of sugar beets increased by 39 percent, vegetables -- by 26 and fruit and berries by 20 percent. The highest cropping power for grain crops in the history of Kuban' farming was achieved in 1978 -- 37.6 quintals per hectare and for winter wheat -- 39.7 quintals. The average annual cropping power for grain crops during this period increased by 4.1 quintals, sugar beets -- by 87, vegetables -- by 17, fruit and berries -- by 25 quintals per hectare. The plans for 3 years,

for the sale of grain, sugar beets, vegetables, meat, milk and other products to the state, were successfully fulfilled. Labor productivity in agriculture was raised by 18 percent.

This year, dry and unprecedented hot weather prevailed throughout the kray for an extended period of time -- more than 100 days. But despite these exceptionally difficult conditions, the Kuban' grain growers succeeded in obtaining fine yields for their grain and pulse crops -- 31.2 quintals per hectare. The workers at kolkhozes and sovkhozes in Korenovskiy, Ust'-Labinskiy, Dinskiy, Timashevskiy, Prikubanskiy and some other rayons obtained an average of more than 40 quintals per hectare.

The kray's farmers fulfilled their established task for the sale of grain to the state. The granaries of the homeland were supplied with 3.5 million tons of grain obtained from fields in the Kuban' region.

A great amount of work has been carried out during this current five-year plan in connection with raising the quality of the products being produced. Work directed towards improving the quality of winter wheat grain has been particularly effective. Highly productive varieties possessing high technological qualities, created by scientists at the Krasnodar Scientific Research Institute of Agriculture imeni P.P. Luk'yanenko, have been introduced into production operations in all areas. A complex of organizational and agrotechnical measures for the cultivation and sale to the state of strong and valuable wheat grain has been developed and is being employed successfully at the present time.

The results of this work are as follows. Compared to 1972, when just slightly more than 1,000 tons of strong and valuable wheat grain were procured, an average of 687,000 tons was procured during the Ninth Five-Year Plan; in 1976, 1.8 million tons were delivered to the state's granaries, in 1977 -- 2.1 million tons and in 1978 -- more than 3 million tons of strong and valuable wheat, or 95 percent of the overall procurement volume for this crop. And in 1979, notwithstanding the very complicated conditions which prevailed, 2 million tons of strong and valuable wheat, or 80 percent of the overall amount, were procured.

During the years of the Tenth Five-Year Plan, the standardization of vegetables and fruit sold to the state has been raised by 8-10 percent. Improvements have been realized in the quality of livestock husbandry products. Compared to 1974 when 13 percent of the milk procured was of 1st class quality, in 1978 -- 84 percent. The delivery weight for one head of cattle supplied to the meat industry exceeded 400 kilograms.

In pursuing a program aimed at intensifying agricultural production, the kray party organization is attaching great importance to the development of land reclamation and the growing of rice. Following the May (1966) Plenum of the CPSU Central Committee, more than 300,000 hectares of irrigated land were placed in operation.

In conformity with the instruction handed down by the general secretary of the CPSU Central Committee and chairman of the Presidium of the Supreme Soviet of the USSR Comrade L.I. Brezhnev, concerning the creation in the Kuban' of a modern domestic base for rice growing, the kray party organization is devoting special attention to the carrying out of the decree of the CPSU Central Committee and the USSR Council of Ministers entitled "On Accelerating the Work of Taming the Azov Floodlands for the Purpose of Further Increasing Rice Production in Krasnodarskiy Kray. At the present time, 227,000 hectares are already occupied by engineering rice systems and 177,000 hectares -- by rice plantings. The Kuban' region produces 700,000-800,000 tons of rice annually, or three fourths of the total amount being harvested in the Russian Federation. The party, soviet, professional trade union and komsomol organs, agricultural and aquicultural organizations and all land reclamation specialists, rice growers and scientists are concentrating their attention on raising the tempo and improving the quality of construction of new rice systems and perfecting the rice production technology such that rice production will be increased to 1 million tons in 1980.

In implementing measures associated with agricultural intensification, land reclamation, the use of chemical processes and mechanization, the kray party organization is directing the efforts of the rural workers towards the solving of a most important task -- raising the efficiency of land utilization. We are proceeding on the basis that land is both priceless and our most important national property. It is our constitutional duty and high civic obligation to protect, enhance and utilize this wealth in the proper manner.

"Everyone is familiar with the well known expression 'flowering kray'" stated Comrade L.I. Brezhnev, during a report delivered before the 25th CPSU Congress, "Such is the title given to that land where the knowledge and experience of the people and their attraction to and love for nature truly create miracles. This is our socialist path. Hence, we must view agriculture as a tremendous and constantly active mechanism for protecting and cultivating live natural riches. And we will be repaid by nature a hundredfold."

In our work concerned with improving the use of land, we are constantly guided by these instructions by Comrade L.I. Brezhnev.

It is appropriate to note here that the competition to achieve a high culture of farming was developed on an extensive scale and proved to be highly effective, also as a result of a close link between science and production. In this regard, an especially great role was played by creative contacts with our leading scientific figures, academicians Pavel Panteleimonovich Luk'yanenko, Vasiliy Stepanovich Pustovoyt, Mikhail Ivanovich Khadzhinov and other talented scientists.

The honorable title of Collective of a High Farming Culture has already been conferred upon 12 rayons and cities, 307 kolkhozes, sovkhozes and

Interfarm enterprises, 1,585 brigades and sections and 58 settlements and village soviets. The collectives of a high farming culture are growing agricultural crops on 70 percent of the overall area of arable land. In 1978, the cropping power of their grain crops was 8 quintals higher than that for the remaining collectives, sunflowers -- 5 and sugar beets -- 92 quintals higher.

Improvements in the effectiveness of land usage, based upon the competition for a high culture of farming, made it possible during 1978 alone to obtain the following additional amounts: 1.13 million tons of grain, 1.4 million tons of sugar beets, 102,000 tons of sunflower seed and many other products.

In addition to improving the forms for organizational and political work and developing the initiative and creative activity of rural workers, the kray party organization attaches considerable importance to improving the technological base for agricultural production and introducing highly efficient methods and technologies for modern and highly organized farming operations. In past years, we introduced such important elements of a high farming culture as the sowing of 1st class seed for regionalized varieties and with simultaneous applications of fertilizer, the carrying out of all field operations in keeping with the schedules established by science and confirmed by leading practice, strict observation of equality between the sowing and harvesting areas and also the plant density established by science and the harvesting of the grain crops within 7-9 days, with use being made of controlled thrashings. And these elements produced positive and well known results.

However, the task of further raising the effectiveness of use of arable and other agricultural land makes it mandatory, in keeping with the requirements handed down during the 25th CPSU Congress, that additional and extreme measures be undertaken aimed at ensuring proper use of the land, raising the productivity of the Kuban' chernozem soils and achieving a thrifty attitude towards such land.

Under the conditions prevailing in the kray, the need for undertaking these measures is dictated by the circumstance that a high level of intensity of land usage has been achieved at the kolkhozes and sovkhozes: on the average, 84 percent of the land in the kray is arable and in the steppe regions -- 95 percent. It is clearly obvious that stable growth in the production of farming products, under conditions involving stable crop areas, can be achieved only by raising the cropping power of the agricultural crops.

In view of this fact, the CPSU kray committee and the kray executive committee, several years ago, assigned the following very important task to the kray party organization and to all workers in the Kuban' -- destruction of all weeds on all land areas.

The work concerned with eliminating weeds on agricultural and other lands was expressed most clearly in 1962, in the ukase handed down by the

Presidium of the Supreme Soviet of the RSFSR entitled "Intensifying the Campaign Against Weeds." Subsequently the kray party committee and the kray executive committee carried out a number of organizational measures aimed at eliminating weeds and they also undertook measures concerned with the extensive development of a mass competition among teams, brigades, sections, kolkhozes and sovkhozes for a high culture of farming.

The new and present stage in the work of eliminating weeds on agricultural land began in 1976. The bureau of the kray CPSU committee and the kray executive committee convened an extraordinary meeting of all land users, during which the organizational and technological measures for completely eliminating weeds in all areas throughout the kray were examined in a complete and thorough manner. This task was defined as being a most important state measure.

During the period when the new movement was launched -- in essence, an all-Kuban' campaign against weeds -- a requirement existed not for a passive appeal to combat weeds, but rather for a new, active and mobilizing approach for carrying out this work. This is why the bureau of the kray CPSU committee advanced the slogan calling for the complete destruction of weeds. And this appeal was warmly accepted and approved by society as a whole.

The replacement of the slogan "campaign against weeds" by the slogan "complete destruction of weeds" is neither a simple formality nor an end in itself, but rather it has become a most important obligation of the kray party organization, soviet, agricultural, professional trade union and komsomol organs and all workers throughout the kray in connection with the elimination of weediness. This has been a powerful means for raising the efficiency of the Kuban' land and for introducing proper order out on the fields of many kolkhozes and sovkhozes, on the territories of populated points and on other agricultural lands.

One principal concern is that of drawing attention to this acute problem. Within a short period of time, it became necessary to convert over from the use of individual elements to a scientific system, to implement an entire complex of organizational and technological measures aimed at destroying weeds and to achieve a correct combination of agrotechnical methods and plant protective chemical agents.

Of the broad complex of questions which define the concept "high culture of farming," why is it that the kray CPSU committee and the kray executive committee singled out this task as being of a priority nature? First of all, they did so because weeds have become the principal factor standing in the way of further accelerated development for farming, yes and not only farming. The weeds often negate all of our efforts aimed at raising the fertility of soil, they are evil competitors of cultivated plants with regard to the consumption of productive moisture supplies in the soil and many of them inflict direct harm upon man and animals.

There is still another type of damage inflicted on agriculture by weeds. Four years ago, from the 1975 harvest, farms throughout the kray supplied the procurement points with more than 600,000 tons of grain and more than 370,000 tons of sunflower seed having a raised content of weed impurities, a considerable portion of which consisted of weed seed. As a result, the farms lost 6.5 million rubles.

Weeds are the evil enemies of cultivated plants. They cause tremendous economic harm to farming and they must be destroyed in a merciless manner.

At times, one hears the statement being made that the task of completely destroying weed vegetation is not a realistic one, since weeds cannot be destroyed in just "one stroke" -- in the arable soil layer, there are hundreds of millions of weed seed embryos per hectare. By no means is it an easy task to eliminate weeds, since the supplies of weed seed in the soil sprout periodically. But when we discuss destroying these plants, we do not have in mind their complete destruction as a biological type. Rather we have in mind the complete elimination of growing weeds on agricultural lands and preventing them from vegetating and bearing fruit on fields and other lands or causing damage. If these requirements are met in a systematic manner, then the overall weed content of plantings and soil will decrease, as borne out by the experience of our collectives of a high culture of farming.

The Kuban' grain growers are striving to solve the task of destroying weeds in a sensible and knowledgeable manner, in order to prevent their agricultural lands from being converted into a scorched desert. In the process, we are taking into account the fact that not all of the wild grasses are weeds. Many of them serve as an important source for creating feed resources, as a means for protecting soil against erosion, as the initial raw material for the production of medicinal preparations and as reservations for useful insects.

In the absence of an intelligent approach for the destruction of weeds, particularly on unsuitable and uncultivated lands, it will be impossible to raise the culture of farming, achieve stable growth in the cropping power of agricultural crops or ensure the reliable protection of nature.

In conformity with a complex plan of organizational, technological and propaganda measures for eliminating weeds on the fields in our kray, a single system has been established for each rayon and farm for organizing work and controlling the destruction of weeds, a system which, in particular, calls for an annual inspection of all agricultural lands, the preparation of maps on weed contamination and the development or refinement of specific and complex measures for destroying weeds. The volumes of this work and the labor, material and financial resources for carrying them out are set forth in the production-financial plans of the kolkhozes, sovkhozes and other users of land.

Committees were formed for controlling the course of fulfillment of the measures planned, committees which in the rayons were headed by the first secretaries of the party committees and on farms and at enterprises -- by the leaders.

Special mechanized detachments and teams were created on each farm for the purpose of destroying weeds beyond the fields of crop rotation plans. They are staffed with experienced personnel and equipped with tractors, mowing machines, soil cultivation implements, sprayers and chemical agents. We have more than 600 such teams and detachments in operation.

This work is also being carried out along a broad front on the shoulders and rights of way of highways and railroads, along forest strips and irrigation canals, in populated points, on private plots and also on the territories of institutes and enterprises. In short, emphasis is being placed on the need for ensuring that there is not one unowned scrap of land or one untended hectare in the kray.

The planning and carrying out of work concerned with the destruction of weeds are presently the responsibilities not only of the kolkhozes and sovkhozes, but also other agricultural enterprises, organizations and institutes and also non-agricultural departments: industrial, transport, construction, municipal, cultural institutes, sanatoriums, holiday homes and so forth. In 1978 alone, they invested approximately 3.5 million rubles in the carrying out of this work.

Special campaigns lasting for a month or 10-day periods and also work performed during free time were organized in a systematic manner for the purpose of mobilizing broad segments of the population towards eliminating weeds.

There were still other areas in which large numbers of weeds were found. These were the areas around the poles for communication and electric power transmission lines. There are almost 500,000 such poles on the lands of kolkhozes and sovkhozes, or an average of 10 for every field of a crop rotation plan. For every pole there are roughly 4 square meters of land. When one considers that such a weed-covered area can contribute to the sowing of weeds on 40-50 adjoining hectares of land, then the danger presented by such areas of weed concentration becomes patently obvious. Thus we attach great importance in our practical work to maintaining the areas around poles in a weed-free condition.

The work concerned with eliminating weeds throughout the kray has become general and constant in nature. The farms and organizations have set aside a special day each week for carrying out weed control work on their territories. Inspections on the course of such work are carried out in a systematic manner. The results of these inspections are discussed during committee meetings and operational decisions are handed down for correcting the shortcomings exposed.

The organizational work is being reinforced by the carrying out of extensive mass-explanatory work among the population on the harm being caused by weeds and on the measures to be used for combating them. Open party and professional trade union meetings and citizen gatherings are being held for the purpose of discussing the weed situation and the measures for controlling them. Such work is now being conducted on a more extensive scale at schools, technical schools, VUZ's, housing administrations and by street and block committees.

Commencing in 1976, the rule was established of holding annual scientific-practical conferences in each rayon on matters concerned with the destruction of weeds. For the purpose of preparing for these conferences, assistance was sought from specialists attached to the kray and rayon production agricultural administrations, sovkhoz trusts and associations and the kray plant protection station and also scientific workers. As a rule, annual reports on the operational results achieved in the destruction of weeds were delivered by the first secretaries of the rayon and municipal party committees. The secretaries and members of the bureau of the kray CPSU committee and the members of the executive committee of the kray soviet of worker's deputies participate in the work of the conferences.

In November 1978, the farmers in the Adygeyskaya AO addressed an appeal to all workers in the Kuban' to further improve their work organization and raise the efficiency of their weed control work. This valuable initiative was supported extensively in all rayons throughout the kray. Additional measures are being carried out in all areas aimed at eliminating weeds and achieving more efficient use of the land.

Certainly, the above does not include all of the various types of mass-political and organizational work being carried out in connection with realizing the planned goals. Diverse forms of oral and printed propaganda and radio and television facilities are also being employed for furthering this work. During 1978 alone, the biology and ecology of weeds and the methods and agents used for combating them were the subjects of 530 seminars, approximately 2,500 lectures and reports and 6,000 discussions. In addition, 130,000 brochures and posters were published on these subjects. Approximately 1,780 inspection checks were carried out on the weed contamination of land at kolkhozes, sovkhozes, populated points and on the territories of enterprises, institutes and the organizations of various departments.

Questions concerned with the destruction of weeds were discussed on 750 occasions during meetings of the executive committees of soviets of workers' deputies and on 1,400 occasions during meetings of special committees. They are reviewed on a systematic basis during meetings of the bureaus of party committees.

Quarantine weeds are deserving of special mention. At various times, eight types of quarantine weeds are found on the territory of the kray: three

types of ragweed, field dodder, Russian sweet-sultan, hawk-type nightshade, sunflower weed and lancet-leaf sage. We are quite disturbed by this fact and, as a result, strict attention is being given to preventing new types of weeds from entering the kray and to ensuring the timely exposure and elimination of such weeds.

In their practical work concerned with eliminating weeds, a majority of the kray's farmers have mastered to perfection the means and methods available for destroying weeds, they are carrying out this work on a scientific basis and they are combining the agrotechnical and chemical methods in a skilful manner.

We are attaching great importance to improving and strengthening the plant protection service, to raising the role it plays in the carrying out of protective measures and to ensuring correct use of the chemical and biological means for destroying weeds. Special subunits headed by skilled plant protection specialists are available practically at every kolkhoz and sovkhoz.

With regard to the overall complex of agrotechnical measures being employed, special attention is being given to the proper observance of scientifically sound crop rotation plans and to the schedules for carrying out the field operations in a high quality manner, particularly the principal and pre-sowing soil cultivation work and the tending of the crops. In view of the fact that crop rotation plans exert a direct effect on improvements in the culture of farming, the kray's specialists and scientists are attaching special importance to the alternation of crops, a practice which ensures the progressive removal of weeds from fields.

It is known, for example, that a high agrotechnical level in the growing of winter wheat serves to suppress the development of weeds, reduces to a minimum their harmful effect and promotes a reduction in the number of weed seed found in the soil. This is why our farmers consider winter wheat plantings to be the "cleansing" fields of a crop rotation plan, assuming obviously that they are grown on a high agrotechnical level. Hence, further improvements in the wheat cultivation culture and a further increase in wheat yields -- represent important conditions for reducing the weed content on all fields in a crop rotation plan.

As is known, fallow land is lacking under modern farming conditions in the Kuban'. Thus, for the purpose of removing weeds from fields in our steppe regions, great importance is being attached to planting winter crops a second time following winter crops. In such instances, the soil cultivation work is carried out on a bastard fallow basis. However, it should be emphasized that the advantages offered by a bastard fallow system of soil cultivation are not always being realized at a number of kolkhozes and sovkhozes, mainly owing to disruptions in the schedules for plowing up the bastard fallow. This is why, this year, the kray party committee and the kray executive committee assigned a most important task to the party, soviet

and economic organs and the kolkhozes and sovkhozes, in addition to completing the grain harvesting work within 7-9 calendar days -- that of ensuring that the bastard fallow on each field is plowed no later than 1-2 days following completion of the grain threshing work. In the organizational plan for carrying out this task, special teams were created within the harvesting-transport complexes for gathering up the straw, applying fertilizers and carrying out the soil plowing and cultivation work.

And compared to previous years when the plowing up of the bastard fallow continued until the beginning of August, this year it was completed for the very first time prior to the middle of July, that is, simultaneously with harvesting the grain crops. In the process, more than 5 million tons of organic fertilizers were applied to the bastard fallow -- an average of 40 tons per hectare. A top dressing of mineral fertilizers was also added to the soil.

The scientific institutes and sovkhozes and kolkhozes throughout the kray, while continuing to improve the soil cultivation system, are creatively employing it depending upon the weather conditions and the specific situations prevailing on each field. Experience has shown that an important element of this system is the timely and high quality removal of stubble. The systematic carrying out of this simple and efficient agrotechnical method is making it possible to cleanse the fields of weeds in a fine sieve.

Science and experience have proven that perennial weeds can be eliminated over a period of 3-4 years provided the necessary recommendations are followed in a strict manner. This is borne out by the fields on farms characterized by a high culture of farming. It is somewhat more difficult to eliminate annual weeds during the same period of time owing to the large quantities of their seed in the soil. A requirement exists here for the timely and general use of a complex of measures aimed at destroying such seeds in a systematic manner during the growing season.

As is well known, special importance is attached in this regard to the carrying out of autumn plowing work in a timely and high quality manner. The scientific institutes in the Kuban' region have developed several systems for carrying out the principal soil cultivation work at various depths, in order to effectively destroy both annual and perennial weeds in the different soil-climatic zones of the kray.

Considerable success has been achieved in the destruction of perennial weeds by those farms which have employed deep (30 or more centimeters) plowing with 2-3 preliminary shallow plowing operations. Such a method, especially in the northern and eastern zones of the kray, is making it possible to reduce by 12-17 times the weed contamination of fields by creeping thistle and other perennial weeds. Thus, this method was employed successfully at the Kolkhoz imeni Kirov in Kanevskiy Rayon for ridding the fields of

sowthistle and field bindweed. This had a very positive effect on the cropping power of the cultivated crops. In 1977, for example, a yield of 33.5 quintals of sunflower seed per hectare was obtained following such plowing. Similarly, perennial weeds were completely eliminated and a considerable reduction achieved in the number of annual weeds at the Boryaag and imeni Shevchenko kolkhozes in Primorsko-Akhtarskiy Rayon, where the yields for all crops were considerably higher than those at neighboring farms.

On many farms in the central and southern zones of the kray, the fall plowing work is being carried out using the method proposed by specialists at the Order of Lenin Kuban' Kolkhoz in Ust'-Labinskii Rayon. This method consists of the following. Immediately after the grain crops have been harvested, scuffling work is carried out on the fields. Roughly 1 month later, light plowing is carried out to a depth of 18-20 centimeters. Subsequently the fields are cultivated as the weeds appear. Finally, in October, deep plowing is carried out. This fall plowing method is now being followed by many farms distinguished by a high culture of farming and, as a result, these farms have practically cleansed their fields of all perennial weeds.

The methods enumerated above for destroying root-sucking weeds are being employed throughout the kray on an area of more than 700,000 hectares.

In recent years, science and practical operations have been attaching great importance to improving the system of spring pre-sowing soil cultivation. Studies carried out at the All-Union Scientific-Research Institute of Oil-Bearing Plants imeni V.S. Pustovoyt, the Krasnodar Scientific-Research Institute of Agriculture imeni P.P. Luk'yanenko and the Kuban' Agricultural Institute and also the experience of leading farms have revealed that repeated pre-sowing cultivation of heavy-textured Kuban' chernozem soils leads to excessive packing of the soil, a drying out of the upper soil layer and to a reduction in the possibility of intensive sprouting of weeds during the pre-sowing period. In this regard, the kray's kolkhozes and sovkhozes have commenced employing, in a creative manner, the elements of minimal soil cultivation, as a means for reducing the weed contamination of fields. At the Kolkhoz imeni Lenin in Kanevskiy Rayon, a reduction in the number of pre-sowing cultivations from three to one, in the growing of corn, made it possible to lower by twofold the weed contamination of fields in just 2 years. During the past few years and for the kray as a whole, one half of the corn and sunflower plantings have been grown following just one pre-sowing cultivation.

The arsenal of the Kuban' farmers contains many other means and methods for destroying weeds in a highly effective manner. For example, the pre-germination and post-germination harrowing of plantings has proven to be quite effective. Our specialists consider harrows to be a very efficient, cheap and simple means for removing weeds from fields. The use of a creative approach in selecting the type of harrow, the harrowing time and the speed

and direction of movement of the unit makes it possible to lower the weed content of plantings by 70-80 percent or more.

During the period given to tending cultivated crops, extensive use is being made of cultivators equipped with weed control and dusting units. This makes it possible to achieve a considerable reduction in the number of weeds not only in the inter-row spacings but also in the drill rows for cultivated plants. According to scientific data obtained from scientific institutes in the kray, the high quality use of this method on sugar beet plantations lowers manual labor expenditures by more than twofold and it eliminates such expenditures entirely on corn plantings.

Our farmers are making extensive use of special units attached to their cultivators for the purpose of dusting weeds in the drill rows. In 1978, for example, this method was employed on one half million hectares.

The formation on each hectare of a scientifically sound plant density for each crop, taking into account the natural features of the various rayons in the kray, has become an immutable rule within the system of measures used for destroying weeds. For example, compared to the years of the Ninth Five-Year Plan when the density of sugar beet plantings fluctuated from 66,000 to 100,000 plants per hectare, in recent years this figure has increased to 90,000 to 100,000 plants per hectare.

We attach great importance to the sowing of agricultural crops in accordance with the schedules established by science and confirmed by leading practice. The value of the crosswise and crosswise-diagonal methods for sowing grain crops, as efficient means for lowering weed contamination, raising cropping power and protecting soil against erosion is well known. More than one half of the areas being used for winter crops is presently being sown using these methods.

Mention must necessarily be made of such a radical method for lowering the overall weed content of soil as the two-stage harvesting of grain crops. The effectiveness of this method is recognized by all farmers throughout the kray. For a number of years now, practically all of the areas used for growing grain and pulse crops and the seed plants for perennial and annual grasses have been harvested using only the two-stage method. In the process, the principal task is being solved successfully -- the crops are being harvested quickly and in a high quality manner. We are already following the immutable rule of harvesting our grain crops in just 7-9 calendar days.

The problem of destroying weeds and preventing them from causing damage to a crop involves very complicated and diverse types of work. During this present stage in the development of farming, it requires not only the extensive use of a complex of agrotechnical methods, but also the efficient use of chemical agents for protecting cultivated plants against weeds and

the skilful and proper combining of such agents. In the Kuban' region, the chemical method for destroying weeds has proven to be highly effective in the growing of many crops. Today the cultivation of some of these crops, especially rice and soybeans, is unthinkable in the absence of herbicides. Herbicides play a great role in the growing of corn and also under the conditions of soil-protective farming, in the stubble tilling of soil.

Recently, an integrated method proposed by the All-Union Scientific Research Institute of Oil-Bearing Crops has been used throughout the kray on considerable areas (more than 160,000 hectares). This method consists of combining agrotechnical and chemical measures for destroying perennial weeds in a system for the fall preparation of soil in behalf of the spring crops. When this method was employed at the Berezanskoye Experimental-Seed Production Farm of this institute in Korenovskiy Rayon, at the Rossiya Kolkhoz in Yeyskiy Rayon and at the Zavety Lenina Kolkhoz in Ust'-Labinskiy Rayon, the destruction of root-sucking weeds reached 90-95 percent and the sunflower yield increased by 1.5-2 quintals per hectare compared to tracts on which these weeds were destroyed manually.

The industrial technology for growing agricultural crops has proven its worth and we will employ it on an extensive scale. This year, despite the drought conditions, the cropping power of grain corn out on fields where the technology was employed exceeded 40 quintals and soybeans -- 27 quintals per hectare. However, the introduction of the technology is still being delayed owing to a shortage of the required herbicides and highly productive equipment.

The implementation of complex measures aimed at destroying weeds made it possible to lower substantially the weed content found on agricultural lands. During the past 4 years, perennial weeds have been removed from 350,000 hectares of arable land. In addition, 100,000 hectares have been cleared of quarantine weeds. The areas contaminated by such quarantine weeds as Russian sweet-sultan, hawk-type nightshade and great ragweed have been reduced in size by 2-4 times and perennial ragweed -- by 26 times. On a number of farms, common ragweed has been detected only on the basis of individual specimens. Ragweed has been removed from all fields at the Kuban' Kolkhoz in Ust'-Labinskiy Rayon and the Kavkaz Kolkhoz in Kurganinskiy Rayon. This weed has been eliminated almost completely at the Order of Lenin Kuban' Sovkhoz in Kavkazskiy Rayon and on many other farms. The territory of the resort zone -- Sochi, Gelendzhik and Anapa -- has been cleared of ragweed.

The large-scale offensive launched against weeds is producing fine economic results. According to estimates by specialists and scientists, the implementation of the planned measures for destroying weeds made it possible during the Tenth Five-Year Plan to harvest the following additional amounts annually in the kray: 500,000 tons of grain and more than 1 million tons of sugar beet roots, for an overall total of approximately 80 million rubles.

Ust'-Lahinskij rayon provides a convincing example of high effectiveness in the implementation of measures aimed at destroying weeds. Persistent and purposeful work in this regard is making it possible for the farms in the rayon to obtain high and stable yields. During the 1976-1978 period, the average cropping power for grain crops here was 45.2 quintals per hectare and for sugar beets -- 441 quintals. These figures were higher than the levels for the Ninth Five-Year Plan by 6.2 and 120 quintals per hectare respectively. Moreover, during this current year and despite the severe drought conditions which prevailed during the spring and summer period, 44 quintals of winter wheat, 47.3 quintals of barley and 24.6 quintals of sunflower seed were obtained from each hectare throughout the rayon.

We view the destruction of weeds not only as an important agrotechnical measure, but also as a great economic and political task aimed at achieving proper use of the land, raising agricultural efficiency, increasing production, improving the quality of output and providing better health conditions for people. It is on the basis of these considerations that evaluations are presently being made regarding the work of the leaders of kolkhozes, sovkhozes, village and settlement soviets, industrial, construction and other organizations, all users of land attached to the various departments and all those who have land and enjoy its blessings.

Emphasis must necessarily be placed upon the great role being played in the development of agriculture generally throughout the kray and in solving the problems under review, in particular, by the kray's scientists and especially by the All-Union Scientific-Research Institute of Oil-Bearing Crops imeni V.S. Pustovoyt, the Kuban' Agricultural Institute, the All-Union Scientific Research Institute of Rice, the Krasnodar Scientific-Research Institute of Agriculture imeni P.P. Luk'yanenko and other scientific institutes. They are carrying out a great volume of studies on the biology and ecology of weeds, they are developing effective agrotechnical and chemical methods and integrated systems for destroying them and they are participating actively in the preparation and implementation of measures developed by the party organization.

We are well aware that the level of agricultural production achieved throughout the kray is still not in keeping with the increasing requirements being imposed by the party, nor does it fully conform to the potential possessed by the kolkhozes and sovkhozes in the Kuban' region. We must solve more complicated tasks of a large-scale nature.

During 1980, the final year of the Tenth Five-Year Plan, the gross yield of grain must be raised to 9.5-10 million tons, including rice -- to 1 million tons. The production of sugar beets must be raised to 7 million tons, vegetables -- to 1 million tons, fruit, berries and grapes -- also to 1 million tons, meat -- to 380,000 tons, milk -- to 1.7 million tons and eggs -- to 1 billion.

At the present time, the communists and all rural workers are concentrating their attention on the practical implementation of these tasks.

There is no doubt but that the agricultural workers, under the direction of the party organizations, will work in a tireless manner in the future, in order to raise still further the culture of farming and, in particular, to eliminate weeds throughout the kray and thus achieve more efficient utilization of each square meter of Kuban' land. At the same time, they will display constant concern for protecting and multiplying our natural resources as well as protecting the environment.

The agricultural workers in the Kuban' region are undertaking all possible measures aimed at fulfilling the plans and socialist obligations of the fourth year and of the Tenth Five-Year Plan on the whole and making a worthy contribution towards carrying out the decisions handed down during the 25th CPSU Congress.

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## MAJOR CROP PROGRESS AND WEATHER REPORTING

### PROPER CARE OF AGRICULTURAL LAND IN NORTH CAUCASUS EMPHASIZED

Krasnodar SSSR 'SKIYE ZORI in Russian No 11, Oct 79 pp 2-3

[Lead article: "Thrifty Concern for the Land"]

[Excerpts] The productive strength of a field! And the power of equipment and the knowledge invested by a grain grower in the interest of steadily raising the fertility of the land and increasing the yields being obtained from it. This year the harvest campaign was carried out under exceptionally complicated weather conditions. The grain growers had to counter the severe drought conditions with high expertise, strong determination and selfless labor. They undertook all possible measures aimed at growing and selling maximum quantities of grain and other agricultural products to the state. And it goes without saying that the victors in this battle against the elements were those collectives which took proper care of each hectare of land, followed all of the agrotechnical laws and requirements associated with the modern culture of farming and spared no effort in the interest of coping with their tasks in a rapid and excellent manner.

The Kuban' workers fulfilled the grain procurement task established for the krai and were pleased with their victory. They supplied the granaries of the homeland with 3.5 million tons of grain, including 2 million tons of strong and valuable wheat and 182,000 tons of corn seed.

Drought conditions endeavored to prevail out on the Kuban' fields -- unprecedented dry conditions continued for more than 100 days and the relative humidity fell to a critical level -- 12-16 percent. However, the grain growers, relying upon a high culture of farming and based upon accurate observation of the scientific recommendations, obtained 31.2 quintals of grain from each hectare. In particular, the farms in Korenovskiy, Ust'-Labinskiy, Dinskiy, Timashevskiy and Krasnogvardeyskiy rayons obtained fine results -- the cropping power of the grain crops exceeded 40 quintals.

Certainly, during such a year it is extremely difficult to force the land into being so generous in terms of yields. But the Kuban' workers, in

competing to obtain the highest yields on each hectare, are developing their grain growing strategy based upon strict fulfillment, on each field, of the precepts of a high farming culture. All field work is being carried out during the periods established by science and confirmed by leading practice, 7-9 calendar days are set aside for harvesting the grain crops and control threshings are definitely being employed. The sowing work is being carried out using 1st class seed of regionalized varieties and with fertilizers being applied simultaneously. The equality of the sowing and harvesting areas and also the plant density established by science are being observed in a strict manner.

A general movement is underway throughout the kray aimed at completely destroying all weed vegetation on agricultural lands. This is being done for the purpose of preventing the weeds from robbing cultivated plants, plundering the nutrients in the soil and also valuable moisture and impoverishing the productive strength of fields. As a result of the skilful combining of agrotechnical and chemical methods for eliminating weeds, the weed content of agricultural fields was lowered substantially. During the past 4 years, perennial weeds were eliminated from 330,000 hectares of arable land. In addition, 100,000 hectares were cleansed of quarantine weeds. The implementation of complex measures for destroying weeds made it possible, during the Tenth Five-Year Plan, to harvest one half million additional tons of grain annually in the kray and more than 1 million additional tons of sugar beet roots, representing an overall total of approximately 80 million rubles.

Last year, the valuable experience accumulated by the Kuban' workers in completely eliminating weeds was approved by the Board of the Ministry of Agriculture for the RSFSR, which recommended that it be followed by all of the republic's farmers. The initiative displayed by the workers in Krasnodarskiy Kray was valued very highly during the All-Union Conference on Destroying Weed Vegetation, held recently in Krasnodar. There can be no doubt but that all of the farms in our zones, in keeping with the example set by the Kuban' workers, will launch a similar general campaign aimed at clearing their lands of weeds, since the urgent implementation of measures for destroying weed vegetation is a most important condition for obtaining high and stable yields and for raising the quality of the products being produced.

A high culture of farming has enabled many kolkhozes and sovkhozes, despite the extremely unfavorable conditions which prevailed this year, to achieve fine results. A number of farms in the Dagestanskaya ASSR obtained an average of 30 quintals of winter grain crops per hectare.

Many collectives, as a result of consistently improving the fertility of their fields, obtained fine results not only on their grain fields but also on their sugar beet plantations. The beet growers in a number of rayons have completed their five-year plans: Krasnogvardeyskiy Rayon in Belgorodskaya Oblast, Kantemirovskiy Rayon in Voronezhskaya Oblast and Tambovskiy Rayon in Tambovskaya Oblast.

The farmers must achieve high goals during 1980, the final year of the Tenth Five-Year Plan. And all of their thoughts are focused on the future harvest. Special concern is being evidenced for the winter crop fields. Experience accumulated over a period of many years at kolkhozes and novkhozes in the North Caucasus and central chernozem zone reveals that the winter grain crops utilize moisture and nutrients to a better degree than do spring grain crops and, as a rule, they furnish greater and stable yields. Winter wheat varieties of the intensive type, developed by our plant breeders, are capable of furnishing 50-70 quintals of grain per hectare, when grown under the conditions of a high farming culture and when raised dosages of mineral fertilizers are employed.

The grain growers gave careful thought to the best placements for their winter crops and they expanded the acreage for these crops. For example, the winter grain fields in Voronezhskaya Oblast have been increased for the very first time to 1 million hectares and in Kurskaya Oblast -- to 672,000, or 110,000 more hectares than last year. The sowing was carried out during the most favorable periods, using high quality seed and with an application of mineral fertilizers. Extensive use was made of the diagonal-crosswise and crosswise methods.

From now up until the harvesting period itself, the winter fields will be under constant observation by the farmers. In conformity with each field, an entire complex of work must be carried out: tending the crops, achieving maximum accumulation and retention of moisture and applying top dressings to the winter crops. A rich harvest cannot be expected if this work is not carried out.

Nor will such a harvest be realized if the balance of nutrients in the soil is not replenished, nutrients which are required annually for plant development and which are carried away by erosion processes and leaching. If this balance is not maintained, a field becomes impoverished and loses its fertility.

The deliveries of mineral fertilizers for agricultural purposes are increasing with each passing year. On a majority of our farms, constant concern is being evidenced for the accumulation and proper utilization of organic fertilizers. A fine example is provided by the workers in the Kuban' region. An entire complex of organizational and technological measures is persistently being carried out throughout the kray in connection with the production, storage, transporting and use of organic fertilizers and the construction of manure pits and sites for the storage of organic fertilizer. The task has been advanced of decisively converting over to the purposeful and planned production of local fertilizers and to a scientifically sound system for utilizing them. Thus, compared to the Ninth Five-Year Plan when an average of 10.8 million tons of organic fertilizer was used annually, during 9 months of this year more than 30 million tons were obtained, or 7.5 tons per hectare. During the next few years, the applications of farmyard manure to the soil will be increased here to 10 tons per hectare of arable land.

The agricultural workers in the North Caucasus and Central Chernozem Zone are commemorating their pre-October work period with persistent and fruitful labor and with the successful realization of their socialist obligations. They are undertaking all possible measures so that, during the final year of the Tenth Five-Year Plan, they will be able to furnish the country with more agricultural products, and make a worthy contribution in the national campaign to further raise national prosperity and strengthen the might of our homeland.

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## MAJOR CROP PROGRESS AND WEATHER REPORTING

### DISCUSSION OF HARVEST IN SARATOVSKAYA OBLAST

SARATOV STEPNEYE PROSTORY in Russian No 12, Dec 79 pp 18-22

[Article: "The Results Could Have Been Better"]

[Text] Saratovskaya Oblast is a large agricultural region of Povolzh'ye. It produces 20 percent of the grain in the zone, over 36 percent of the sunflowers, 17 percent of the meat, 11 percent of the milk, 18 percent of the eggs and 19 percent of the wool. The lack of stability of productivity and gross yield of agricultural crops from year to year is characteristic of the oblast as well as for the entire Povolzh'ye. Whereas in 1978 Saratov farmers produced 20.4 quintals per hectare of grain, in 1979 the figure was only 6.7 quintals per hectare. Gross grain yield was 8.4 million tons and 2.6 million respectively. In 1978 state granaries received over 5 million tons or about 28 percent of the total amount of grain procured in the region; in 1979--only 700,000 tons. Drought was the reason for such an evident underproduction.

The climate in Saratovskaya Oblast is continental and dry. The total annual precipitation in Pravoberezh'ye fluctuates between 335 and 480 mm; in Leberezh'ye--250-360 mm. The hydrothermal coefficient changes from 0.4 to 0.9, which demonstrates the dry conditions for the vegetation of agricultural crops. In 1979 summer weather arrived on 29 April, 20 days earlier than usual, with high temperatures and relatively low atmospheric humidity. In May the air temperature was 4-5° higher than normal. Precipitation was 20-30 percent lower than normal everywhere. In the same month in the northwestern and western rayons there were 15-20 days with dry winds, and in the southeast--25-27 days. All of this brought stress to the spring stages of development in the plant. In winter crops there was poor bushing out and root formation; in spring crops--a sparsity of shoots, wilted bushing out and the absence of secondary roots.

But after all, modern farming is surely capable of combatting drought! Agricultural science and progressive production practices have at their disposal effective methods for combatting this evil. The system of effective farming for the dry areas of Povolzh'ye that was developed in the Scientific Research Institute of Agriculture of the Southeast and tested in practical

terms is directed at meeting this goal. However, this year were all the methods of the aforementioned system utilized in full measure? The editors asked the workers of the given institute to express their opinion on this question. Participating in the round-table discussion were the deputy director on scientific work and candidate of agricultural sciences Vladimir Iosifovich Kafarena, the department director and candidate of agricultural sciences Mayya Pavlovna Chub and Vladimir Ivanovich Lokhmatov, senior scientific workers Antonina Vladimirovna Pashkevich, candidate of economic sciences Antonina Gerasimovna Medvedeva and candidate of technical sciences Mikhail Ivanovich Borisov. The discussion was lead by V. Mel'nikov.

[V. I. Kafarena] The creative use of promising technology for cultivating agricultural crops enabled many enterprises and even rayons in the oblast to produce rather good harvests despite the complex weather conditions this year.

The most important factor in the farming system is the crop rotation with the scientifically-based fluctuation of crops, an efficient structure of sowing area that meets the specialization needs of the enterprise. The enterprises of Fedorovskiy and Krasnokutskiy rayons have achieved positive results in the introduction of new crop rotations with enlarged fields and in the introduction of the intrabranch shop principle of production organization and management. In comparison with 2 years ago, in Fedorovskiy Rayon the number of crop rotations decreased by half; the number of fields fell from 418 to 174. This enabled us to concentrate technology and improve its use and to improve technical services and to strengthen controls over the quality of field work. As a result in 1979 the given rayon produced the largest harvest in the oblast--10.8 quintals per hectare on the average. Of course this is not very much in comparison with last year, which was a favorable one. But if we consider that the neighboring Yershovskiy Rayon, which still has not fully assimilated the progressive agrocomplex, produced 7 quintals per hectare, then the increase of 3.8 quintals to this yield in Fedorovskiy Rayon was considerable. If all enterprises had produced as much as Fedorovskiy Rayon there would have been an additional 2 million tons of grain and total gross yield would have surpassed 4.5 million tons.

We should note that the grain farmers of Fedorovskiy Rayon did not utilize all reserves. A higher level of quality in farming enabled progressive enterprises to achieve even better results. The Yerusalanskoye Experimental-Production Enterprise of our institute produced 13.9 quintals of grain per hectare, which is 3.1 quintals more than the average for the rayon.

The farmers of Krasnokutskiy Rayon produced 9 quintals of grain per hectare. For such severe conditions this was not a bad result. But even here some enterprises demonstrated that this was not the limit. For example, the Krasnokutskaya Breeding-Experimental Station produced 14.6 quintals on each of 1,396 hectares, or 5.6 quintals more than in the rayon as a whole.

[V. Mel'nikov] Vladimir Iosifovich, you presented us with examples from the steppe Zavolzh'ye. Can you find support for your ideas in examples that apply to Pravoberezh'ye?

[V. I. Katarenko] Yes, there are things that must be thought about and considered here. Here we have Arkadakskiy Rayon, for example. It is also a rayon with high-quality farming, but this time it only produced 6.2 quintals of grain per hectare. At the same time the Arkadakskaya Agricultural Experimental Station located in this rayon, with its identical land and weather, produced 13.4 quintals, or 7.2 quintals more.

Rtishchevskiy Rayon produced 7.4 quintals of grain per hectare. It is not a large yield, but still is somewhat higher than the oblast average. Neighboring Tatishchevskiy Rayon produced only 4 quintals per hectare, as did Lysogorskiy Rayon.

The system of effective farming in the dry Povolzh'ye that was developed in the Southeastern NIISKh [Scientific Research Institute of Agriculture] is accessible for universal and complete application in any rayon and enterprise. The agrotechnical methods of this system have been propagandized so much and so broadly for a number of years that each worker of the agrochemical service knows them thoroughly. It is vexing that not all measures are fulfilled in the same way. This is what is demonstrated by the following.

The complex of agrotechnical measures includes the optimal schedule for completing field work. This is very important. If sowing is 5-6 days late the underproduction of spring wheat in the chernozem steppe is 10 percent; 10 days late--17 percent. In regions with chestnut soil the respective figures are 10 and 22 percent.

Considerable effort is required to combat weeds and the pests of agricultural crops. Weeds, by taking moisture, worsen the conditions for the growth and development of cultivated crops, thereby lowering their resistance to drought and pests. This year as never before there has been a drop in productivity in weed-infested crops. This is especially true for plots that are well fertilized with mineral and organic fertilizers. After all, fertilizers are assimilated not only by cultivated crops, but by weeds as well. Under drought conditions the weed is more active in utilizing nutrients. In places where they were not fought yield dropped noticeably.

In speaking of drought we cannot forget the question of soil erosion. These are attendant phenomena that supplement each other. Because of the few forests in the oblast and the acute shortage of moisture the most effective soil-conservation measures are deep tillage across the slopes and graded plowing with soil deepening. When this is done the water current on the slopes is decreased by 12-32 mm and productivity increases by 1.5-2 quintals per hectare.

In the oblast there is a great deal of experience in utilizing soil-conservation technology for crop cultivation that calls for the utilization of sweeps and stubble sowers. Sweep cultivation encourages an increase in the productivity of spring grains by 1.3 and in winter crops by 2.5 quintals per hectare. Here the cost of grain decreases noticeably and standard clear income increases by up to 15 percent. With each year the given technology

is becoming more and more widespread. Whereas in 1971 sweep cultivation took place on 164,000 hectares and in 1979 on 865,000 hectares, in coming years the area will exceed 1 million hectares.

[V. Mel'nikov] Antonina Vladimirovna, since you are involved in questions of seed farming and seed growing please share with us your observations and thoughts on whether all reserves were found for work with seeds.

[A. V. Pashkevich] Within the complex of measures that secure a growth in productivity an important role belongs to seed farming. Economically speaking the introduction of new varieties is the most inexpensive agrotechnical method enabling us to increase productivity without additional expenditures. The oblast's kolkhozes and sovkhozes are performing certain seed-farming work. In 1979 almost all crops came from quality seed and 92.4 percent of the seed belonged to first class. The continued improvement of seed farming still remains a considerable resource for raising productivity and increasing the gross yield of field crops.

Let us look at the following question. The oblast must change to a new variety every 4-5 years at the most. Our exchange pace is much lower. But there are unused possibilities for increasing grain yield. This year unregionalized varieties of spring wheat were sown on 21.5 percent of the area; oats--33.4 percent; and peas--80.2 percent. The Saratovskaya-42 variety of spring wheat was in short supply, occupying only 17 percent of quality crop area although it was regionalized in the oblast in 1973. The Krasnokutka-6 variety, regionalized in 1974, made up only 5 percent of quality crops and the Saratovskaya-46 soft wheat variety that was regionalized in 1977 and that has proven to be a good variety made up only 2 percent of quality crops. At the same time the old varieties Al'bium-43 and Melyanopus-26 are cultivated on large areas as before.

Here are some comparative results. In Pugachevskiy Rayon hard spring wheat Krasnokutka-6 produced 1 quintal per hectare more than Khar'kovskaya-46 and 1.5 quintals more than Saratovskaya-40. The promising variety of barley, Tselinnyy-5, yielded 9.8 quintals per hectare and the regionalized Donetskiy-4--only 6.4 quintals per hectare.

In Balashovskiy Rayon the Krasnokutka-6 variety surpassed Khar'kovskiy-46 by 2.1 quintals. The average rayon yield of soft wheat Saratovskaya-46 was 15 quintals per hectare, or 5.6 quintals more than Saratovskaya-36.

I am presenting these facts because oblast and rayon production administrations of agriculture, Elitmenovodtrest [Elite seed farming trust] and state seed institutes must strengthen controls over reproducing promising and deficit varieties and over the scheduled fulfillment of economic plans of variety replacement.

Following the example of Rostov workers, we must more broadly organize experimental fields for agronomists in kolkhozes and sovkhozes to conduct production tests and to accelerate the reproduction of promising varieties.

In the oblast there are enterprises whose specialists support constant contact with the breeders and workers of variety plots. These include the Selanskij Horse Plant of Samoilovskiy Rayon, the Dekabrist Sovkhoz of Verchovskiy Rayon, the Znamya Pobedy of Marshovskiy Rayon, the Rodina Kolkhoz of Balashovskiy Rayon and others. Test fields must propagandize new varieties. The chairman of the Rodina Kolkhoz, A. I. Dolzhenko, tested three varieties of millet. Volzhskoye-3 yielded 12.0 quintals, Saratovskoye-2--12.1 and Saratovskoye-3--17.0 quintals. The latter two varieties are resistant to powdery smut. I think that these results would be of interest to the directors of other enterprises in Balashovskiy Rayon.

In fulfilling the resolution of the CPSU Central Committee and the USSR Council of Ministers of 4 November 1976, "On Measures to Further Improve the Selection and Seed-Farming of Grains, Oil-Bearing Crops and Grasses," the management organs of the oblast developed measures to develop seed farming on an industrial base. An oblast association, Saratovsempron [Saratov seed industry association], was organized for the production of grass and sorghum seed for all commercial crops. There are 63 specialized enterprises in the oblast to produce and procure seeds of millet, buckwheat, sunflowers and mustard for all commercial crops and for the production of grain crop seed for seed-farming brigades and divisions. The production of elite and first-reproduction seed is concentrated, as before, in the experimental enterprise of the Southeastern NIISKh and in the Mumovskoye Teaching Enterprise. At the present time many of the named specialized enterprises are experiencing a shortage of equipment to cultivate the soil, to sow, to care for the crops, to combat pests and diseases and to harvest and clean the seed. These needs require the quickest satisfaction. After all, seed farming is a branch in which the smallest error or mistake can bring losses of hundreds of thousands of tons of grain and other agricultural products.

For next year 97.3 percent of the seed that the oblast has prepared is of first and second class. It is the task of specialists of all enterprises to intensive the sowing material in good condition and to complete pre-sowing cultivation and high-quality sowing on schedule.

[M. A. Chub] I agree with Vladimir Iosifovich, under this year's conditions the sowing schedule was very important. Winter crops that were planted at the optimal time produced satisfactory shoots. But all of them needed nitrogen in the fall. Preceding 1978 was moist, large harvests were produced everywhere and nitrification occurred more slowly. For this reason the supplies of nitrates, especially for non-fallow predecessors, were significantly lower than in other years for the sowing of winter crops.

[V. M. Miltikov] Was everything done to replenish nitrogen reserves?

[M. P. Chub] In places where top-dressing occurred the yield was significantly higher than on sections that were not fertilized. An example of this is our experimental enterprise. It produced 17 quintals per hectare of winter rye. This is normal for such a year. Each hectare received 30 kilograms of nitrogen when winter crops were sown on fallow and 60 kilograms for non-

fallow predecessors. With these doses the increase in grain yield on clean fallow was 3.5 quintals and on occupied fallow--from 3.5 to 5.5 quintals.

In cultivating winter crops, especially those following clean fallow, it is very useful to apply phosphorus fertilizer in the rows. Under production conditions, when clean fallow is not always ideally cultivated, 50-70 kilograms of nitrogen accumulate in each hectare. The effectiveness of such a fertilizer is demonstrated here. In other words, phosphorus acts well in fields that are supplied with nitrogen. It is especially useful in seed plots where it increases the filling-out of the seed, its absolute weight and its biological strength. But the problem is that we cannot utilize granulated superphosphate in rows while sowing winter crops. At this time enterprises do not have any of last year's supplies of this fertilizer. There is nowhere to store it, there are no storehouses. If supplies are stored it is in the open or under an undependable cover. After a single rainfall the granules disintegrate, clumps are formed and the sower becomes clogged. This method of application is useless. New supplies arrive usually when sowing is already completed. As a rule they are spread on the ground during late-fall plowing. Thus, superphosphate in granule form is not used in the rows under winter crops although this very device would produce an additional 2-4.5 quintals per hectare.

The top-dressing of winter crops with nitrogen fertilizer usually occurs in late fall or early spring. The better time is fall, beginning in the latter part of October when plants stop vegetating.

It has been determined that fertilizers that are applied in late fall move into the root layer but are not washed out as a result of precipitation. During the spring the plant uses them immediately, especially as the temperatures increase. This is what happened this year. The fertilizers that were applied on 1 May in some places remained on the surface of the soil and a large reserve was lost.

[V. Mel'nikov] What is the status of organic fertilizers? Judging by reports, large quantities are being applied. What does an analysis of their utilization show?

[M. P. Chub] We are still experiencing a shortage of mineral fertilizers. This means that we must make every effort to utilize organic fertilizers. Unfortunately, our existing system of utilizing manure is unsatisfactory. As a rule, it is applied on late-fall plowed fields and is not plowed under (but it is most advantageous when plowed in with the plowing layer). Or else the manure is distributed in piles on the late-fall plowed fields. Then it is levelled by bulldozers. As a result its distribution is uneven--there are overfertilized sections next to sections that are not fertilized at all. This practice has not changed for a long time. What are the consequences? During the last five-year plan 35 million tons of manure have been moved into oblast fields, but a sharp rise in productivity of crops has not been noted.

The technology is simple. The manure should be moved onto the edges of fields, packed and stored in this condition until application. It should be applied using manure spreaders (only their utilization enables us to carefully distribute fertilizer on the field), with a precise dose of 20 tons per hectare. Then it should be plowed under during plowing operations. In the Tsentral'noye experimental enterprise of the institute there was an increase in the harvest of 4-7 quintals of grain per hectare on cultivated lands with the proper application of manure in the aforementioned dosage. In the oblast there are many areas in which the land is significantly poorer than in the experimental station, and therefore the increase will be higher still.

In quantity of nutrients the manure that is applied is equivalent to 70 percent of the expensive mineral fertilizers. But this essentially free fertilizer is not being utilized properly. The main reason for this is the shortage of equipment. Right now all hope has been placed on the new system of organizing the given operation. In April of this year the agrochemical trust created the Saratovskaya Oblast production-scientific association for agrochemical services to kolkhozes and sovkhozes. In fulfilling the resolution of the CPSU Central Committee and the USSR Council of Ministers, "On Creating a Single Specialized Agrochemical Service in the Country," the new association is setting the goal of increasing the volume of work to move and apply organic fertilizer to 100 percent in the near future. The supply and application of mineral fertilizer, the organization of plant protection through chemical and biological means and a number of other operations must be fulfilled by the newly-created agrochemical service, which is equipped with a " of the necessary equipment and with highly trained cadres.

As far as this year is concerned, according to statistical data 6 million tons of manure have been applied to oblast fields. It has been determined that if utilized properly each ton produces an additional 40 kilograms of grain. This means that the oblast could produce an additional 240,000 tons of grain if the manure were utilized correctly.

[A. G. Medvedeva] Winter crops play an important role in the continued increase of gross grain yield in Saratovskaya Oblast. In 1976-1978 the average yield of winter wheat was 20.7, of winter rye--16.2, of spring wheat--12.1 and of millet--9.5 quintals per hectare. In 1979 yield was: winter rye--9.5; winter wheat--9.1; spring wheat--6.3; and millet--4.8 quintals. The productivity of winter crops could be higher if they were placed on clean fallow. This is what the data from scientific studies during recent years demonstrates. If we say that in the Pravoberezh'ye of the oblast the productivity of winter crops after clean fallow is 100 percent, then on fallow occupied in corn productivity is 68-88 percent; oats-vetch--65-88 percent; peas--60-77 percent; barley--43-56 percent. This year in the Kolkhoz imeni Chapayev of Atkarskiy Rayon on an area of 459 hectares the yield of winter rye on clean fallow was 18 quintals, and with non-fallow predecessors--3.6. The Arkadskaya Agricultural Experimental Station produced 28.8 quintals of winter wheat grain per hectare on clean fallow and 10 quintals with non-fallow predecessors.

On the left bank of the Volga the indicators contrast even more. In the Krasnyy Partizan Kolkhoz of Novouzenskiy Rayon this year winter rye on clean fallow produced 15 quintals on each of 430 hectares, and 10 times less with non-fallow predecessors.

In 1976-1978 winter crops in the oblast occupied 756,000 hectares, whereas according to the efficient variation of crops in crop rotations there should be no fewer than 1,100,000 hectares of them. In 1979 there were even fewer of these crops--546,600 hectares.

[V. Mel'nikov] What is necessary for the winter fields to become stable?

[A. G. Medvedeva] The decrease was the result of the fact that in the oblast the areas of clean fallow are insufficient. If we take recent years, only 37 percent of winter crops are sown on clean fallow and 63 percent are sown using non-fallow predecessors.

The Southeastern NIISKh and other scientific institutions in the oblast recommend the following proportion of winter crops in the area of plowland of field crop rotations: for the steppe rayons of the right bank--25-28 percent; in the chernozem rayons of the same zone--20-25 percent; in the Savolzh'ye--13-17 percent. On the right bank winter wheat should occupy a large area; on the left bank--winter rye should. A large amount of attention should be given to rye crops. Information from state variety plots demonstrates that the given crop surpasses winter wheat in productivity under the same conditions of cultivation, and in particular when sown on clean fallow. The increase in the yield of Saratovskaya-4 winter rye is 4-5 quintals in the oblast.

In order to increase winter crops and to organize stable winter fields it is necessary to allocate guaranteed areas of clean fallow in field conditions on dry-farming lands. In 1976-1978 there were 406,000 such hectares, and in 1979 somewhat more--538,000. However, this is still insufficient. If there are 710,000-730,000 hectares of clean fallow, as planned by the efficient alternation of crop rotations, plus 230,000 hectares of pulse crops, which are good predecessors for grains, as well as 100,000 hectares of annual grass-legume mixtures for green fodder purposes, it is possible to achieve a stable winter field of 1,100,000 hectares. If it were this size this year the oblast would produce no fewer than 300,000-350,000 tons of additional grain.

In the Zavolzh'ye rayons the role of clean fallow is important not only for increasing the productivity of winter crops but also for increasing that of the spring wheat that follows. Again let us look at Fedorovskiy Rayon as an example. Here spring wheat is usually sown after winter crops after clean fallow. As a result in 1979 its productivity was 13.6 quintals, or 4.5 quintals more than in the oblast as a whole, where the given crop was sown after significantly poorer predecessors.

[N. I. Borisov] harvesting-transport and sowing complexes are becoming more and more widespread in the oblast. They represent an improved group organization of machine operations that secures their high productivity. It is the goal of such complexes to complete harvesting in a short period of time and without losses. In harvesting spring wheat on the tenth day losses comprise 6 percent; on the fifteenth--13 percent, and for harvesting millet the losses are even greater--9 percent on the tenth day and 20 percent on the fifteenth. Every harvest points to the necessity of fulfilling the technology that must be used for the specific conditions of the year. This time one of the special operations involved the doubling of grain swathes. When there is a small harvest the pick-up of single swathes results in under-capacity operations of such powerful combines as the Niva and Kolos by 50-70 percent. In other words, there is a sharp drop in productivity. Moreover, when the swathes are not doubled losses increase. In the Teruslanskoye Experimental Enterprise, in the Pushkinskiy Sovkhoz of Sosetskiy Rayon, in the Bezymyanskiy Sovkhoz of Engel'skiy Rayon and in many others grain was placed in double swathes and picked up by combines with reequipped pick-up attachments. For this reason productivity was high and losses were not tolerated.

Unfortunately, in a number of places there were violations of the aforementioned technology. For example, in the Yelizavetinskoye Experimental Enterprise and in other enterprises of Atkarskiy Rayon the swathes were doubled, but not by means of reequipped reapers. For this reason the grain mass was not picked up uniformly. There was a loss of quality and consequently, great losses of grain.

[A. Mel'nikov] In the oblast almost 350,000 hectares are irrigated. This is a large resource for farming. Are you, Vladimir Ivanovich, who works with the problem of soil reclamation, satisfied with the results obtained on irrigated lands?

[V. I. Lekhmatov] On the average for the oblast irrigated land produces 21 quintals per hectare of grain, 176 of corn green mass, 280 of perennial grasses and 136 of vegetables. The main reason for such low harvests is the violation of the cultivation technology and primarily of the irrigation equipment. Grains need to be irrigated 5-6 times; alfalfa--8-9. On the average in the oblast there were 2-4 irrigations. Mineral fertilizers were applied in a dose of 7.5 quintals per hectare. This is very little. According to our calculations, in order to produce a grain yield of 40 quintals 21-27 quintals per hectare of fertilizer are required. Moreover, frequently the effective ratio of nitrogen, phosphorus and potassium fertilizers was not observed, thereby decreasing their efficiency.

In order to understand the degree of underproduction of the harvest, let us look at the results of leading farms. The link of V. M. Kotov in the Terskoye Sovkhoz raised and harvested 39 quintals of Krasnodarskaya-39 winter wheat on each of 102 hectares. The same amount of spring wheat grain was harvested on an area of 282 hectares by the Solvanskoye Experimental Enterprise. The Kolkhoz imeni Karl Marx of Balakovskiy Rayon harvested

40 quintals of grain on each of 220 hectares. Many enterprises and links fertilized and irrigated their fields well and the irrigated land responded with large harvests.

The planned productivity of irrigated lands is 30 quintals per hectare for spring crops and 40 for winter crops. Many irrigated plots should be producing the planned yields by now. This has not yet happened. There are several reasons for this. There is a shortage of cadres. Low-productivity varieties are being cultivated. Irrigation during the night hours is not being organized everywhere. There is another reason too. Irrigated plots in the oblast are constructed with the idea of utilizing the Fregat from two positions. With such operations of the aforementioned equipment we do not have time to normally irrigate all fields. Thus the moisture in the soil drops, which has a negative effect on the development of the plant during tillering and blooming. It is not easy to eliminate this inadequacy. Sections must be reconstructed so that at least 80 percent of the Fregats are stationed at one position for irrigation.

[V. Mel'nikov] What must be done next year in order to avoid this year's errors?

[V. I. Lokhmatov] The preparations for next year's harvest have gotten off to a fairly good start. Water-retention was planned for 125,000 hectares and has been completed on 129,000. During plowing 44,200 tons of mineral fertilizer were applied, an average of 3-4 quintals per hectare. But much still lies ahead. Equipment must be repaired with quality. Cadres must be found and trained. Snow-retention must be completed. This snow will create a large supply of moisture in the soil and this means that less irrigation water will be required. Mineral and organic fertilizers must be applied according to norms. Finally, we must select special varieties and prepare seeds. It is essential to take only regionalized seeds. By doing this alone we can experience an increase of 3-4 quintals per hectare.

[V. I. Kafarena] There are great and responsible tasks awaiting field workers in 1980, the final year of the 10th Five-Year Plan. The oblast's kolkhozes and sovkhozes have good seed for the new harvest, the fields have been plowed and organic fertilizers have been moved into the fields. I agree fully with Vladimir Ivanovich that a great deal still remains to be done. In dry rayons it is especially important to retain snow and water from spring thaws. Snow plows can operate dependably when the snow is 10-12 centimeters high and 15-18 centimeters of soil should be plowed up. SVU-2.6 snow plows-rollers are used to create snow windrows. Rollers or special multi-use sleds-packers are used to pack the snow in strips. During the winter snow windrows should be made 2-3 times using snow plows. This will enable us to increase the snow cover by 35 centimeters. Snow windrows should be placed across the direction of prevailing winds and slopes. According to 20-year data of the Southeastern NIISKh, snow retention encourages an increase in the productivity of winter wheat on clean fallow of 5.6 quintals, with non-fallow predecessors--2.9 quintals, for winter rye--3.9, for spring wheat--3.8 and for sunflowers--5.9 quintals per hectare.

[V. Mel'nikov] In summarizing the results of the discussion we can say that all its participants agreed that even during the complex conditions of the present year it would have been possible to achieve significantly better results. We should note here that Saratovskaya Oblast is not the only one in Povolzh'ye where possibilities were not fully utilized. Everywhere in the zone many resources must be found and put to use.

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## MAJOR CROP PROGRESS AND WEATHER REPORTING

### HARVEST REVIEW OF VARIOUS REGIONS OF SIBERIA

#### General Overview

Omsk ZEMLYA SIBIRSKAYA DAL'NEVOSTOCHNAYA in Russian No 1, Jan 80 p 2

[Lead article: "Grain Production--Shock Sector"]

[Text] For a long time Siberia has been considered a large granary in the eastern section of the country. Siberian grain farmers working in severe natural and climactic conditions often provided the example of raising large harvests of grain crops, especially spring wheat. Today too, in summarizing the results of the fight for grain during the fourth year of the 10th Five-Year Plan, Siberian farmers speak mainly about their primary crop--wheat.

The rural workers of Omskaya Oblast excelled in increasing grain production during the past year. They raised a large harvest and sold the state a record quantity of grain--2 million tons, most of which was high-quality spring wheat. It is noteworthy that most of the grain was produced by the virgin rayons of the oblast--Russko-Polyanskiy, Novovarshavskiy, Pavlogradskiy and others. Quite deservedly Omsk farmers were congratulated with their great labor victory by the Secretary General of the CPSU Central Committee, Leonid Il'ich Brezhnev.

The workers of the kolkhozes and sovkhozes of Amurskaya Oblast successfully fulfilled their plan and made their contribution to the procurement of grain. The enterprises of Primorskiy and Khabarovskiy krays met their goals in the sale of grain to the state. We also send words of thanks to the workers of agriculture in Altayskiy Kray, who poured 3,450,000 tons of grain into state granaries, including a large quantity of hard and high-quality varieties of wheat. The grain farmers of Novosibirsk, who delivered 1,357,000 tons of grain, noticeably increased their grain sales to the state in comparison with last year.

However, we must admit that there are still many violations and serious shortcomings in grain production in our zone that hold back the growth of productivity.

The decisions of the 25th Party Congress and subsequent plenums of the CPSU Central Committee indicated that the most important goal in farming was the overall growth of grain production and the improvement of the stability of the grain industry. At the November 1979 Plenum of the party's central committee Comrade L. I. Brezhnev said, "Although direct food needs for grain have been fulfilled for a long time already, we are continuing to increase the production of grains for the sake of feed." This statement must be made the basis for the activities of agricultural organs and all grain farmers in our zone to increase grain production.

### Harvest in Omskaya Oblast

Omsk ZEMLYA SIBIRSKAYA DAL'NEVOSTOCHNAYA in Russian No 1, Jan 80 pp 4-7

[Article by S. I. Manyakin, first secretary of the Omskaya Oblast committee of the CPSU: "Following the Course of the Party's Agrarian Policies"]

[Excerpts] The agricultural workers of Omskaya Oblast are fighting selflessly to implement the decisions of the 25th CPSU Congress and to successfully conclude the tasks of the 10th Five-Year Plan as a whole. In realizing the measures developed at the March 1965 and subsequent plenums of the CPSU Central Committee, the workers of sovkhozes and kolkhozes achieved significant results with the aid of the state.

Powerful economic potential in agricultural production has been created in the republic and continues to be strengthened. In early 1979 fixed capital in the branch reached 3,515 million rubles. In the first 3 years of the five-year plan alone the material-technical base grew by almost 800 million rubles, or by one-third.

At the same time there was a growth in the capital-labor ratio (by 36 percent) and in capital supplies (by 32 percent). The power-worker ratio now is 33 horsepower per worker and 168 horsepower per 100 hectares of sowing area. On the average each enterprise has 80 tractors, 44 combines, 11 trucks and much other technology.

Agriculture has taken the steady path of intensification and the economies of kolkhozes and sovkhozes have become stronger. Important steps have been taken in the direction of specialization and concentration of production and in its transition to an industrial base.

Each year the sale of agricultural products to the state increases. According to preliminary calculations, its gross volume will increase by about 300 million rubles and will approach 1.5 billion rubles.

At the present time the production of grain, meat, pork, eggs and wool is profitable with consistency. During 3 years of the five-year plan the average productivity of grains in the oblast was 14.6 quintals per hectare--1.7 quintals more than on the average during the Ninth Five-Year Plan; 4.4 quintals more than in the eighth and 8 more than in the seventh.

Grain is the main treasure of this country, a priority to everything. But it was never acquired easily by anyone and especially by us Siberians. The natural conditions of this risky farming zone are evident even in the most favorable years.

The 1979 harvest is not an accidental phenomenon and it did not happen by itself. It was the result of the realization of an entire complex of measures, the result of many years of persistent work of the oblast party organization and all oblast workers.

Last year spring sowing was completed on a high agrotechnical level and in a compressed period of time. Over 1,360,000 hectares of wheat, or 96 percent, were sown after the best predecessors--bare fallow, the second crop after fallow, sod and sod rotations of perennial grasses and intertilled crops. Three-fourths of the sown seed was first or second class. About 600,000 hectares were occupied by new highly productive varieties of wheat--Omskaya-9, Lade, Novosibirskaya-67, of oats--Risto, of barley--Olimp and others. Last year's harvest received 6.4 million tons of organic fertilizers. Granulated phosphorus fertilizer was applied on 420,000 hectares of grains. This type of complex of measures in conjunction with the increased skill and the selfless labor of farmers enabled them to produce a large harvest on oblast fields.

In the annals of Omskaya Oblast 1979 will have its own special noteworthy page. A record harvest was produced--18.5 quintals of grain per hectare. An unheard of gross yield was achieved--4.2 million tons. For the first time over 2 million tons of grain were poured into state granaries. Most importantly, 1,665,000 tons were wheat.

It is also important to emphasize the conditions under which the harvest was raised and cut. We know that grain is not obtained easily in Siberia. Siberians are acquainted with all the caprices of nature, but the current ones exceeded all past problems. A cold summer hindered the maturation of grains and they lodged on over 70 percent of the total area. The harvest operations were difficult and exhausting. They were complicated by ceaseless rains as well as ice-covered ground, snow and snowstorms.

Only selfless and skillful people could pass such trials. Comrade Leonid Il'ich Brezhnev in his book "Tselina" [Virgin Land] called them heroic people, people for whom the general state interests superceded all others.

That which has been achieved today is the most evident result of the implementation of the agrarian policies of the CPSU and of planned practical work to fulfill the decisions of the 25th Party Congress and the July 1978 Plenum of the CPSU Central Committee as well as the advice and recommendations of Comrade Leonid Il'ich Brezhnev as expressed by him during his visit to Omsk in March 1978. The city of Omsk and its city party organization have made a great, invaluable contribution to the village, thereby making their contribution toward solving strategic problems--securing food and agricultural raw materials for the country.

Today we direct our first words of thanks to the grain farmers of Russko-Polyanskiy Rayon, who made the largest contribution to the 2-million Omsk harvest. Having threshed 357,000 tons of grain, the rayon poured 250,000 tons, or over 15 million poods of grain, into state granaries. It is very important that the state received 217,000 tons of high-quality wheat. In the rayon the productivity of the entire area of grains (164,500 hectares) was 21.7 quintals per hectare. Each enterprise delivered 1 million poods to the state, and the Sibiryak Sovkhoz, which produced an average of 26.7 quintals per hectare, delivered 2 million poods of quality grain.

True fortitude was demonstrated by the initiators of oblast socialist competition--the workers of Novovarshavskiy Rayon. They completed harvesting in an organized manner and with good quality, producing 22 quintals per hectare and significantly overfulfilling their obligations. They sent 168,000 tons of grain to the elevators, or over 10 million poods. Of strong and valuable grain, 131,000 tons were sold. Two sovkhozes--Imeni 50-letiya SSSR and Pobeda--sold the state over 2 million poods of grain each.

Knowing no fatigue, the farmers of Pavlogradskiy Rayon persistently fought for grain, delivering 151,000 tons. The farmers of Odesskiy Rayon delivered 115,000 tons, of Tavricheskiy--130,000 tons and of Poltavskiy--114,000 tons.

The contribution of these rayons is large and significant.

Almost all of the rayons in the oblast, most sovkhozes and kolkhozes, thousands of brigades, links fulfilled their socialist obligations for 1979.

In the oblast there are four soil-climactic zones and each of them made its contribution.

The steppe zone includes the virgin lands. At its 25th anniversary the virgin lands again showed their worth. Nine rayons in the zone had a productivity of 19.8 quintals per hectare and poured 1,262,000 tons of grain, or 60 percent of oblast obligations, into the homeland's granaries. In the zone over 2 million tons were threshed.

In the southern forest-steppe seven rayons sold the state 445,000 tons of grain. The largest amounts were contributed by the enterprises of Salachinskiy Rayon--91,000 tons, after achieving a productivity of 19.3 quintals per hectare. Over 1 million tons were threshed in the zone.

Among the nine rayons of the northern forest-steppe the kolkhozes and sovkhozes of Muromtsevskiy Rayon produced 19.7 quintals per hectare and sold the state 43,000 tons. The rayon has approached the production of 1 ton of grain per hectare of plowland. This zone collected 827,000 tons.

In the northern zone the greatest success was achieved by Tarskiy Rayon, the enterprises of which produced 15.9 quintals of grain per hectare and successfully completed the tasks of selling grain to the state. Six rayons in the zone threshed 226,000 tons.

In discussing the successes of grain farmers we proudly and fervently thank the great labor contribution to the 2-million Omsk harvest of the workers and employees of the oblast center who uninterruptedly supplied the village with all that was necessary and who participated directly in the fight for a large harvest. Thousands of city residents worked on combines and reapers, threshing floors and grain-reception stations. Under very difficult conditions they actively harvested potatoes and vegetables.

Difficult work was performed by the workers of grain-reception enterprises. They organized the reception and treatment of grain and secured its complete preservation. They dried 1.8 million tons of grain!

The workers of science and culture, health, trade and consumer services made their contribution in the fight for a large grain harvest.

We are very grateful to the machine operators and drivers from Stavropol'skiy Kray, Kalmytskaya ASSR, Rostovskaya, Vologodskaya and Pskovskaya oblasts and to the soldiers of the Soviet Army. They made a worthy contribution to the large Omsk harvest by harvesting 400,000 hectares.

In the oblast there are 207 sovkhozes and 151 kolkhozes. They are usually directed by highly educated, energetic and enterprising people. Sovkhoz directors and kolkhoz chairmen are great workers. During the harvest they remained at their posts for days on end. They are characterized by a great party spirit and keenness, a strong will and persistence in achieving goals as well as a readiness to come to one's aid.

The spirit, initiators and organizers of all the glorious deeds during the harvest and grain procurement were, as always, communists. They were the cementing force. They reacted to all problems in time and with principle.

Party organizations, local soviets of people's deputies and trade union and komsomol organizations demonstrated their organizational abilities, managing daily socialist competition, disseminating progressive experience and providing information on the course of field work in their enterprises, rayon and oblast.

We also direct our best words at the first secretaries of state and rayon party committees. They are courageous and modest people who took all difficulties upon themselves while in the center of events. These people are special in makeup and they are wholeheartedly devoted to the communist party and their socialist homeland.

The Secretary General of the Central Committee of the CPSU, Comrade Leonid Il'ich Brezhnev, congratulated Omsk grain farmers with their labor victory.

Communists and oblast workers accepted the congratulations of Leonid Il'ich with a feeling of great satisfaction and justified pride.

The high evaluation of the labor achievements of agricultural workers in the oblast inspires workers, kolkhoz farmers and the intelligentsia toward selfless labor.

The congratulations of the CPSU Central Committee--this is the battle program of the 120,000 strong oblast party organization and all oblast workers to fulfill the decisions of the party and the plans and goals of the 10th Five-Year Plan.

As we know in life in addition to successes and achievements, examples and models worthy of imitation, there are still many problems and errors. While noting the noteworthy victory of Omsk grain farmers we must at the same time critically evaluate the results of work in farming and to determine the future growth of agricultural production. The fight for the harvest is very tenacious and difficult. For this reason it is extremely important to learn lessons from this harvest and to eliminate shortcomings and to secure that which has been achieved.

The important thing is to meet shock goals as determined in the speech of Comrade L. I. Brezhnev at the July 1978 Plenum of the CPSU Central Committee and to bring productivity up to 20 quintals per hectare. To do this it is necessary to mobilize all existing reserves. There are many of these in agriculture. Evidence of this is the experience of leading rayons, kolkhozes and sovkhozes, brigades and links which this year achieved good results.

Today the workers of the oblast's kolkhozes and sovkhozes are actively working to fulfill the decisions of the November 1978 Plenum of the CPSU Central Committee. They are taking practical measures to continue the growth of production of all types of products.

A priority goal is the overall preparation for spring field work. Spring 1980 will be very difficult for Omsk grain farmers. In 10-12 days it is necessary to prepare over 1.6 million hectares for sowing and to remove straw from 1 million hectares. By 1 April the machine-tractor fleet must be carefully repaired. Special attention is given to repairing K-700 tractors, which carry the main load during the period of spring field work. Supplementary measures are being taken to prepare cadres of machine operators. High-quality seed is being prepared for sowing and local fertilizers are being moved to the fields.

An important concern of agriculture is the organized conclusion of over-wintering of livestock. On farms work must be organized in such a way as to increase milk yield and weight gain in livestock and to fully preserve the herd.

In April the Soviet people and all progressive mankind will celebrate the 110th anniversary of V. I. Lenin's birth. Omsk workers, like all of the Soviet people, are striving to meet this great holiday with new achievements in socio-economic and cultural development. Hundreds of labor collectives

of the city and village, thousands of production leaders have taken on obligations to greet the birthday of the great Lenin with the fulfillment of the five-year plan and they are firmly keeping their word.

For everything that the Soviet people are famous for they are obliged to the Communist Party--the inspirer and organizer of all our victories, leading the country on Lenin's path.

The workers of Omskaya Oblast will close ranks more closely around the Leninist party of communists. They will multiply their achieved success and do everything they can to make their contribution in meeting goals and resolutions established by the party and state regarding the economic and social development of Siberia more and more weighty and significant from year to year.

#### Harvest in Altayskiy Kray

Omsk ZEMLYA SIBIRSKAYA DAL'NEVOSTOCHNAYA in Russian No 1, Jan 80 pp 14-17

[Article by N. F. Aksenov, first secretary of the Altayskiy Kray CPSU Committee: "The Grain of the Altay Lands"]

[Excerpts] Party, soviet and agricultural organs and all the workers of kolkhozes and sovkhozes in the kray accepted as their battle program the decisions of the July 1978 Plenum of the CPSU Central Committee, which presented the goal of achieving overall and dynamic development of agriculture, of providing dependable supplies of food and agricultural raw materials so that the growth of their output would secure a significant increase in the living standard of the people.

In the speech of the Secretary General of the CPSU Central Committee L. I. Brezhnev and in the resolution of the plenum it is emphasized that grain production remains, as before, the shock section of operations. For our party organization this statement is very relevant because the Altay is one of the largest sections in the eastern part of the country producing grain, mainly high-quality hard and strong wheat varieties. The year 1979 was the first year of the practical implementation of the decisions of the July plenum of the central committee. During that year the entire country festively noted the 25th anniversary of the assimilation of virgin lands. During the years of the assimilation of virgin and fallow lands the kray received extensive material and technical aid from the state. This enabled us to assimilate 2.9 million hectares of new lands, to increase the area in plowland to 7.3 million hectares and to increase the sowing of grain crops by a factor of 1.7. The virgin lands have repaid their subjugators a hundred-fold. In 25 years the kolkhozes and sovkhozes of the kray have given the homeland 65.5 million tons of grain, or 4,120,000,000 poods, 12.4 million tons of sugar beets, 5 million tons of meat, 19 million tons of milk, 5 billion eggs and 220,000 tons of wool.

Large-scale economic and organizational measures were implemented after the March 1965 Plenum of the CPSU Central Committee. The decisions of this plenum changed the status of the village, called great forces into action from within socialist agriculture. Capital investments in kray agriculture have grown considerably. For all operations during this period the total is 5 billion rubles, including almost 2 billion rubles during 4 years of the 10th Five-Year Plan, which is double the amount of the Eighth Five-Year Plan. The capital-labor ratio has tripled, comprising 8,800 rubles, and the labor-power ratio has doubled, reaching 33 horsepower per average annual worker.

In the light of the decisions of the July 1978 Plenum of the CPSU Central Committee, the party kray committee and soviet and agricultural organs are performing extensive work. There has been a great deal of building of housing and cultural-consumer structures. In 4 years kolkhozes and sovkhozes have built 1,350,000 square meters of living space, many clubs, schools and stores. All of these measures have enabled us to maintain the sum of workers in sovkhozes and kolkhozes on the same level in the course of the last 15 years, to increase the number of mechanized cadres to 100,000, or 140 persons per 100 tractors. In the years after the March 1965 Plenum of the Central Committee a great deal of work has been done in the kray to bring order to the land. In the steppe rayons a soil-protective system of razing has been assimilated. The basic types of operations within this system are performed in volumes that are close to those that are indicated in the general scheme to combat soil erosion: soil cultivation while maintaining the stable--4 million hectares; sowing using counter-erosion sowers--3 million; sowing across the slopes--up to 1 million; and creating coulisses--up to 300,000 hectares. Practically all areas of grains are occupied by regionalized varieties. In the kray there has been a solution to problems such as completing basic soil cultivation during the fall and the sowing of all crops in the optimal period of time. All of this has enabled us to significantly increase grain production. The highest indicators were achieved during the years of the Ninth Five-Year Plan, when the average annual productivity comprised 13.3 quintals per hectare, gross yield comprised 6.3 million tons and procurement--over 3 million tons.

The past 4 years have not been favorable in weather-climactic conditions. But even under these difficult circumstances the soil-protective system has recommended itself. In comparison with the Ninth Five-Year Plan gross production output did not decrease and in 1979 it surpassed 2 billion rubles. The kray took a definite step to further improve agricultural production. For Altay farmers the fourth year of the five-year plan was a difficult one. A drawn-out, cold spring put sowing greatly behind schedule. Great efforts were required to conclude the sowing of grain crops on time. In fallow and fall/winter plowed fields there were 5.3 million hectares of crops, including 3.6 million using non-mouldboard cultivation. For the 1979 harvest 8.9 million tons of humus and 533,000 tons of mineral fertilizers were applied. Over 80 percent of the grain seed that was sown corresponded to the first and second classes of the sowing standard. All

of this enabled us to produce uniform and good shoots. One-third of the fields were evaluated highly by the state commission and given the Seal of Quality.

The 1979 harvest became an actual battle for grain. Grain farmers pitted a high degree of labor organization, creative initiative, enthusiasm and political skill against the bad weather.

For the period of the harvest kray and rayon operational groups were created to manage the entire complex of field work and procurement of agricultural products. City and rayon party committees became the true cerebral centers of the harvest. Today we can say with satisfaction that rural party organizations and all communists passed a strict test of battle readiness and of their capability to head and lead workers.

The selfless labor of Altay grain farmers enabled us to eliminate difficulties and achieve certain success. The productivity of grains was 13.5 quintals per hectare as compared with the average annual 13.3 quintals of the Ninth Five-Year Plan, which had produced the best yields thus far. The state was sold 3,450,000 tons of grain, including 610,000 tons of hard, strong and valuable varieties of wheat and 360,000 tons of seed grain.

The farmers of Shipunovskiy Rayon made a significant contribution to the grain harvest by delivering 8.3 million poods; of Aleyskiy Rayon--7 million; of Pavlovskiy, Pospelikhinskiy, Kamenskiy, Rodinskiy and Rebrikhinskiy--6 million poods each; and Blagoveshchenskiy, Biyskiy, Ust'-Kalmanskiy, Ust'-Pristanskiy, Krasnoshchenkovskiy, Romanovskiy and Tyumentsevskiy--5-5.5 million poods each.

It is noteworthy that the largest contribution was made by the virgin lands of Kulunda, which is the main granary of the Altay. Considering the year's weather conditions they produced an acceptable harvest--11 quintals per hectare, and they delivered almost 1 million tons of grain to the state, or one-third of total procurement. They have something in common with the rayons of the Rubtsovsko-Aleyskaya Steppe which produced 14.7 quintals per hectare and submitted over 1 million tons of grain to the state.

The best indicators in grain production were achieved in those rayons and enterprises which achieved high-quality farming and a precise organization of labor.

The grain farmers of Petropavlovskiy Rayon presented the homeland with a glorious gift for the 62nd anniversary of Great October. They achieved the highest productivity of grains in the kray--21.2 quintals per hectare and delivered 64,400 tons of grain to the state. The farmers of Altayskiy, Smolenskiy, Zav'yalovskiy, Zmeinogorskiy, Krasnoshchekovskiy, Mamontovskiy, Ust'-Pristanskiy, Ust'-Kalmanskiy and Bystroistokskiy rayons produced 17 quintals per hectare and more each. Thirteen rayons achieved a productivity of over 100 poods per hectare.

Among enterprises first place in grain productivity was achieved by the collective of the Blynskaya Experimental-Selection Station. Here crop rotations have been fully assimilated and are already undergoing their sixth rotation. All field work is completed in the best time and with high quality and the application of organic and mineral fertilizers increases from year to year. This enables enterprises to increase agricultural production output with stability. On the average during the Ninth Five-year Plan the productivity of grains at the station was 22.7 and in 1979 it reached 27.3 quintals per hectare.

Many collectives of grain-reception and transport enterprises performed shock labor.

This year great success was achieved by potato and vegetable farmers in the kray. They fulfilled their procurement plans not only for the year but for 4 years as well, and in potatoes--for 5 years.

A great deal has been done to secure the overwintering of livestock. kolkhozes and sovkhozes have procured 1,734,700 tons of hay, 1,092,800 tons of haylage, 158,900 tons of grass meal, 5,731,000 tons of silage. This is more than last year.

In all of these achievements a large contribution was made by agricultural specialists. They have become the real technologists of the fields, the initiators of scientific-technical progress and the authentic organizers of production. There are about 23,000 specialists with higher and secondary educations working in kolkhozes and sovkhozes. For many years now the chief specialists of enterprises have had personal creative plans for the introduction of the new and the progressive into production. All of the kray's scientific institutions are conducting research in kolkhozes and sovkhozes.

In summarizing the results of the fourth year of the five-year plan, Altay communists clearly understand the complexity of the goals that are before our agriculture. The overall increase in the production of grain and feeds is the basic problem in farming. In the kray solutions have been found to the problems of combatting wind erosion in the steppe, but water erosion on winding lands continues to bring significant losses to agriculture. The Altayskiy Scientific-Research Institute of Farming and Breeding has developed a soil-water preservation system of farming for the central and eastern rays of the kray. Its introduction on the fields of the experimental part of the institute was very effective. Sweep soil cultivation, tassuring the soil, mulching it with straw, creating coulisses and applying organic and mineral fertilizers enable this enterprise to annually produce stable harvests of all agricultural crops despite unfavorable weather conditions. During the Ninth Five-Year Plan the productivity of grains was 20.9 quintals per hectare; in 1976--16; in 1977--22; in 1978--21.1; and in 1979--20.6 quintals per hectare. The rapid introduction of this system in kolkhozes and sovkhozes was the basic resource for increasing agricultural production output.

There are large resources in the elimination of losses during harvesting operations. The fall does not spoil Siberian grain farmers with good days. The entire complex of harvesting operations is concentrated in August and the first half of September. The frequent rains curtail the number of work days during the period to 15-20. The combine load of 200 hectares of grain crops and the availability of transport do not allow the kray to complete harvesting in a compressed period of time. It extends to two months. According to scientific data, beginning harvesting even 10 days behind schedule results in the loss of some of the harvest. It is necessary to decrease the load per grain combine to an average of 150 hectares.

In the kray several problems related to production specialization must be solved. At the present time a system of seed farming is being developed on the basis of the association Altaysortssempron [Altay Quality Seed Industry]. The creation of the kray association Sel'khozhimiya [Agricultural Chemical Association] will encourage the rise in the effectiveness of utilizing fertilizers and solving other questions in the chemization of agriculture. Land reclamation is taking on greater and greater importance. The radical improvement of haylands and pastures and the change of feed crops to irrigation strengthen the feed base and enable farmers to increase the area of plowland for grain production.

The kray party organization always focuses attention on training machine operators and recruiting rural youth. The priority task now is the careful preparation for the 1980 harvest. The kray's enterprises have plowed 4 million hectares of late fall/winter fields, seed has been stocked fully, a complex of measures for moisture retention is being carried out and organic fertilizers are being brought out into the fields. On the initiative of the machine operators, engineering and technical workers of kolkhozes, sovkhozes and the rayon agricultural equipment association of Tselinnyy Rayon the kray has begun socialist competition to conclude the quality and scheduled repair of all technology.

The cadres determine the success of any operation. The kray already has a system of training and retraining machine operators and other cadres of mass professions. Teaching the experienced new methods and technologies that are being introduced into production, teaching new workers a love for the job and for technology, helping people to master their skill--these are the goals of universal education for machine operators.

The agricultural workers of the kray are making every effort and utilizing their skill and experience to successfully meet the goals of the 25th party congress and the July 1978 Plenum of the CPSU Central Committee.

## Harvest in Novosibirskaya Oblast

OMSK ZEMLYA SIBIRSKAYA DAL' NEVOSTOCHNAYA in Russian No 1, Jan 80 pp 24-26

[Article by N. G. Sorukov, secretary of the Novosibirskaya Oblast CPSU Committee: "A Priority--Raising the Quality of Farming"]

[Excerpts] The agricultural workers of Novosibirskaya Oblast, in persistently implementing the historical decisions of the 25th CPSU Congress and the instructions and recommendations expressed by Comrade L. I. Brezhnev during his visit to Novosibirsk and other cities of Siberia and the Far East, have accepted great socialist obligations to further increase the production and procurement of all types of agricultural products during the fourth year of the five-year plan. In establishing the main goals of the year, the oblast party organization made the concern for the overall growth of grain production a priority goal. Extensive work was done in the oblast's kolkhozes and sovkhozes to increase gross production of agricultural crops. This question was discussed in plenums of rayon and city CPSU committees, in meetings of the party-economic aktiv and in sessions of the rayon soviets of people's deputies.

In over 90 percent of the area in spring crops sowing took place on land that was prepared in the spring, and 1 million hectares were cultivated using the non-mouldboard method. For the 1979 harvest over 5 million tons of organic fertilizer were applied, over 1 million hectares were fertilized with mineral fertilizers, including 436,000 hectares of grain crops sown with the simultaneous application of granulated fertilizer in the rows. In spring field work most attention was focused on retaining soil moisture and on raising the quality of pre-sowing field cultivation as well as on the more extensive utilization of devices from the soil-protective system of farming. On 72 percent of the area in grains first and second class seed was used. In 283 enterprises only high-quality seed was sown. The areas in the most productive and valuable varieties of wheat were expanded--Novosibirskaya-67, Pirotriki-28, Lyutetsens-57; of oats--Taryukhkiy-943 and Belozernyy; of barley--Krasnoufimskiy-95 and Obskoy; of buckwheat--Sibiryachka. All of the areas in wheat were sown with quality seed.

Kolkhozes and sovkhozes realized more energetic measures to assimilate crop rotations. For the 1980 harvest 434,000 hectares of fallow was raised, which is 23 percent more than during the preceding year.

Particular attention was given to the training of mechanized cadres. At the beginning of spring sowing the SPTU (Special vocational and technical school), enterprises and study course combines trained 6,200 tractor operators, and almost 7,000 raised their qualifications. At the present time over half of the machine operators are qualified as first or second class tractor and machine operators. Over 2,000 directors and specialists of enterprises have received training in the agricultural institute, in technical schools and in the oblast school for raising the qualifications of cadres. Tractors,

automobiles and agricultural technology were repaired better than last year. Prior to the beginning of sowing all kolkhozes and sovkhozes held open party meetings at which machine operators, employees and kolkhoz farmers participated and which planned the ways to increase the productivity of fields.

The conditions for the formation of the harvest of spring grains and other agricultural crops in 1979 were very complex. The late spring and the very small amount of positive temperatures moved back the time for spring sowing--in most rayons it was completed 8-10 days later than usual. As a result, during the first half of vegetation the development of the plants lagged behind average schedules over the long-term. At the same time the hot and dry days of July accelerated the maturation of grains and dried out crops in a number of rayons. In the rayons of Kulunda and Baraba the abundant rainfall of the third 10-day period of August resulted in the lodging of grain crops on a significant area. Nevertheless, the collectives of the majority of kolkhozes and sovkhozes in the oblast were able to eliminate these difficulties and to achieve a productivity of 14.5 quintals per hectare of grains.

In 1979 harvesting operations were not easy--there was a shortage of transportation and the weather was poor. The collectives of enterprises in most rayons countered this with a high level of organization and with selfless labor. In the oblast as a whole the gross grain yield was 3.2 million tons. Of this amount the grain farmers of the oblast delivered 1,357,000 tons to the state. They overfulfilled the established plan, stored their full quota of seed, repaid the labor of sovkhоз and kolkhoz workers and stored a certain amount of grain for forage purposes. The plans to deliver rye, oats and millet to the state were significantly overfulfilled, the plan for the procurement of quality grain was fulfilled by 116 percent and 143,000 tons of grain from valuable and strong wheat variet varieties were stored in state reserves.

The workers of Dovolenskiy rayon were the first in the oblast to fulfill the national economic plan of delivering grain to the state. The rayon's sovkhozes raised a good harvest, began harvesting operations in an organized manner, actively unloaded grain into state granaries from the first days of harvesting and delivered 63,100 tons or 8.3 quintals per hectare of grains on the average, instead of the planned 59,000 tons. The enterprises of Iskitimskiy, Cherepanovskiy, Zdvinskiy, Barabinskiy, Kuybyshevskiy and Severnyy rayons dealt successfully with the fulfillment of the first duty to the state.

The labor of the grain farmers of Kupinskiy Rayon is deserving of a high evaluation. They secured the highest delivery of grain--103,500 tons--among the rayons of the oblast. This was more than the established plan by 14,000 tons. The kolkhozes and sovkhozes of Krasnozerskiy, Karasukskiy, Kochkovskiy, Ordynskiy and Kochenevskiy rayons sent large quantities of grain to the state.

The greatest productivity of grain crops in the oblast was achieved by the grain farmers of Tatarskiy Rayon--22.6 quintals per hectare. The rayon was among the first to complete its plan, sending the state 92,000 tons of grain. A productivity of 18 quintals was achieved by the kolkhozes and sovkhozes of Barabinskij Rayon; 16-17 quintals--Chistoozernyy, Zivinskij, Vengerovskij, Kochkovskij, Ordynskij and Ubinskij rayons.

In our work we follow the instructions of L. I. Brezhnev as expressed during the July 1978 Plenum of the CPSU Central Committee, where he said, "Today it is essential to direct the entire arsenal of agrotechnical devices, to utilize all possibilities and reserves and to subordinate to this goal the work of local party, soviet and agricultural organs, directors and specialists of enterprises, sovkhoz employees and kolkhoz farmers with the aim of producing maximal grain harvests, of raising the productivity of the soil and of improving the quality of farming." We attach great significance to the basic ways of increasing productivity--the overall improvement in the quality of farming, the assimilation of crop rotations, completing field work in the best agrotechnical time, the introduction into production of highly productive varieties, the improvement of seed farming, the broad utilization of organic and mineral fertilizers, the continued improvement of the structure of sowing areas and the organization of labor in crop growing.

In analyzing the results of the year we must note that in a number of enterprises the practically-tested measures that are directed at obtaining large yields are still underevaluated and not implemented. This results in the fact that neighboring enterprises which find themselves in practically identical soil-climactic conditions have sharply different productivity indicators.

Unfortunately, we often come across vacillation, with serious lags in beginning field work and especially harvesting, with a low level of agrotechnology, with a poor organization of labor and with a poor utilization of technology. The Vernyy Put' Kolkhoz of Kupinskiy Rayon in recent years has significantly improved its quality of farming, assimilated crop rotations with short rotations, increased the area in fallow to 15 percent of total arable land, extensively utilizes a soil-conservation system of farming and on this basis obtains a good yield of grain crops. In 1976-1978 the enterprise produced an average of 12.6 quintals per hectare; last year--18.7; and on fallow fields--27.2 quintals per hectare. The neighboring large grain Medyakovskiy Sovkhoz is assimilating crop rotations very slowly, is conducting sowing and harvesting operations on a low level and produces a yield of about 5 quintals. In 1979 it collected 12.5 quintals per hectare--6 quintals less than the neighboring kolkhoz.

Raising the productivity of lagging enterprises to the levels of leading enterprises is an important reserve for increasing the production of grain, potatoes, vegetables and other farm products. This requires considerable, but noble, work on the part of party, soviet and agricultural organs in the oblast.

A large reserve for the growth of productivity is improving the seed farming for grain crops. In recent years the variety composition of wheat, oats and barley has been renewed significantly. However, in a whole series of enterprises not all seed is of first and second class sowing standards, seed-cleaning schedules are not maintained and frequently this work is done 2-3 times, thus increasing damage to the seed.

It is an intense period for grain farmers now. It is necessary to prepare technology on schedule for the spring, to move organic fertilizer into the fields, to accumulate as much snow as possible in the fields and to have high-quality seed. For the 1980 harvest the delivery plan for grains has been fulfilled by 101 percent, 20,000 tons of emergency reserves have been stored (more than last year), and farms have procured sufficient quantities of valuable and promising varieties of seed. Many kolkhozes and sovkhozes organized the cleaning and conditioning of seed while harvesting operations were still going on and completed the preparation of seed material completely by 15 November. The Maslyaninskiy, Sibiryak, Mil'tyushikhinskiy, Marshanskiy, Troitskiy and Zav'yalovskiy sovkhozes, the Novaya Sem'ya Kolkhoz, the Kolkhoz imeni Lenin of Karasukskiy Rayon and the Kolkhoz imeni Uritskiy of Suzunskiy Rayon brought their seed to first and second class standards for sowing. At the same time the data on seed analyses indicates that in a number of enterprises a great deal of work with seed remains to be done. The oblast, rayon and city party committees are directing party organizations at raising the responsibility of directors and specialists of agricultural administrations, kolkhozes and sovkhozes toward the status of seed farming in order that each enterprise have high-quality seed and use this important resource for increasing the yield of grain. Special attention is given to questions of organizing the repair of equipment, to the shipment of organic fertilizers, and to training cadres, i.e. to complex preparations for spring sowing during the final year of the five-year plan.

In the speech of the Secretary General of the CPSU Central Committee L. I. Brezhnev at the November 1979 Plenum of the central committee special attention was focused on the continued accelerated increase in agricultural production output and on raising labor productivity. There was justifiable criticism of the ministries which supply agriculture with material resources. This concerns us Siberians as well. Thus, with all the measures taken by party, soviet and economic organs our oblast still does not receive the allocated mineral fertilizer--from 11,000 to 13,000 tons, feed salt--3,000 to 5,000 tons, feed phosphates--almost 50 percent, significant quantities of technology including tractors, trailers for the K-700 tractor, corn sowers, silage combines, tractor rakes and many mechanisms for livestock farms. This undoubtedly has a negative effect on agricultural production and on the fulfillment of plan indicators in kolkhozes and sovkhozes.

The final year of the 10th Five-Year Plan has arrived. In the work of the oblast party organization today a large role is being played by the extensive start of socialist competition for a worthy meeting of the 110th

anniversary of V. I. Lenin and for the successful fulfillment of 1980 plans and of the five-year plan as a whole.

The battle readiness of communists, brought about by the decisions of the November plenum of the central committee, is being transmitted to all oblast workers. Rural workers have resolved to produce a large harvest of grains this year and to deliver to the state no fewer than 1,545,000 tons of grain, 150,000 tons of potatoes, 90,000 tons of vegetables, over 1 million tons of milk, 210,000 tons of meat, and many other products, thereby through their labor achievements worthily greeting the 26th party congress.

#### Harvest in Amurskaya Oblast

Omuk ZEMLYA SIBIRSKAYA DAL'NEVOSTOCHNAYA in Russian No 1, Jan 80 pp 30-31

(Article by N. V. Pavlov, deputy director of the agricultural production administration of the Amurskaya Oblast executive committee: "The Contribution of Amur Farmers")

[Text] The agricultural workers of Priamur'ye, in implementing the decisions of the July 1978 Plenum of the CPSU Central Committee, have successfully fulfilled their socialist obligations for 1979 in the sale of grain to the state. The homeland's granaries have received 478,000 tons of grain, which is 160,000 tons more than the national economic plan. Especially good work was performed by the farmers of Tambovskiy Rayon, who sold the state 104,000 tons.

Weighty contributions were made by the enterprises of Mikhaylovskiy Rayon--69,100 tons, Ivanovskiy--58,000 tons and Konstantinovskiy--62,200 tons. The Order of Lenin Priamur'ye Kolkhoz of Tambovskiy Rayon and the Partizan Sovkhoz each delivered 17,000-18,000 tons of grain, and the Pogranichnyy, Tereshlavskiy sovkhozes and Rodina Kolkhoz of Ivanovskiy Rayon as well as a number of other enterprises delivered 10,000-14,000 tons each. The five-year plan for the delivery of grain to the state was fulfilled by 12 kolkhozes out of the 15 that had this assignment. Most of the enterprises in the oblast have succeeded with five-year goals.

The achieved success was the result of a high level of organization, the selflessness of farmers, specialists and all rural workers and the great political and organizational work of party, soviet and agricultural organs. This victory became possible as a result of the sequential realization of the party's program for the complex development of agriculture, the basis of which is strengthening the material-technical base of kolkhozes and sovkhozes. In 1979 over 5,500 combines, about 3,000 reapers, 3,700 motor vehicles and much other technology operated in oblast fields.

The delivery of mineral fertilizers to oblast enterprises reached 820,000 tons of standard fertilizers, which is double the amount of 1970. Last year 7,100,000 tons of organic fertilizers and 735,000 tons of standard

mineral fertilizers were applied, which is 1,074,000 tons and 315,000 tons more than in 1970 respectively. Crops were treated with herbicides on an area of 308,000 hectares and biological methods of combatting pests were utilized on 10,000 hectares.

In 1976-1978 irrigation occurred on 7,069 hectares as compared with the planned 6,500; drainage--on 40,093 hectares as compared to the planned 38,964; and cultivational work--on 30,138 hectares.

The skilful utilization of these great material resources enabled farmers to significantly improve the quality of farming and the fertility of the soil and to significantly increase production output in farming and animal husbandry. The average annual volume of gross agricultural production during 3 years of the current five-year plan increased in comparison to the average annual volume during the ninth by 53.8 million rubles, or by 16.4 percent, reaching 382,100,000 rubles. Grain production grew by 57 percent, equalling 1,162,000 tons. There were significant increases in the production of soy, potatoes, vegetables and feeds.

Most of the attention of workers of agriculture and of party and soviet organs was focused on increasing the production of grain and other farming products. This work was done in a business-like and concrete manner. Kolkhozes and sovkhozes realized scientific recommendations in practical terms and strived to utilize the best of accumulated experience.

Despite the difficulties resulting from the long spring grain crops were sown on a good schedule, over half of the area was sown in first and second class seed, usually using the most productive varieties of wheat--Amurskaya-75, Lyutetsens-47 and Glenlea; of oats--Narymskiy-943 and Sel'ma; and of barley--Chernigovskiy-5 and Krasnoufimskiy-95. On 95 percent of the area granulated fertilizer was applied during sowing. All grains were sown using the crossover and narrow-row methods. There was a significant improvement in the volume and quality of crop care.

After considering the weather conditions, the availability of equipment and the condition of the grain stand, two-stage harvesting was given preference. This enabled farmers to decrease threshing time and grain losses due to shedding.

In eliminating the difficulties that were due to weather, combine operators, tractor operators and drivers of motor vehicles did everything to harvest and move the crops with quality. In organizing harvesting operations we utilized a group of proven methods for using technology, just as we have done in previous years. As a result of the overall creation of harvesting-transport detachments we were able to assign trucks to combines for the entire harvesting period. The most important advantage of harvesting-transport groups (there were 297 of them) was the collective responsibility of combine operators and drivers for the success of the common task. The practice of utilizing this for 3 years has demonstrated the high effectiveness of this form of labor organization during harvesting.

The 1980 harvest was intensive. Its success was decided by the degree of organization and the precise and coordinated work of the 15,000 strong detachment of machine operators in the oblast and of all farmers.

Many Amur machine operators achieved excellent results in all-union socialist competition. Among them was the recipient of the Order of Lenin, the Labor Red Banner and the Mark of Respect, combine operator of the Pogranichnyy Sovkhoz, Anatoliy Vasil'yevich Toporkov, who threshed 15,300 quintals, combine operator of the Yerkovetskiy Sovkhoz Viktor Petrovich Fedyninov--12,600 quintals and combine operator of the Il'inovskiy Sovkhoz Anatoliy Sergeyevich Chernyshev--11,000 quintals. There are many examples of selfless, highly productive labor. There are guardsmen of the 1979 harvest in every rayon and in every kolkhoz and sovkhoz.

In the fight for the 1979 harvest a large role was played by the continued development of socialist competition for high quality farming, which has been taking place in the oblast for several years.

The great and purposeful work of rural workers yielded some results. This year on an area of 792,500 hectares the productivity of grains was 14 quintals per hectare, which enabled us to collect over 1,086,000 tons of grain. In the enterprises of Tambovskiy, Konstantinovskiy and Mikhaylovskiy rayons productivity reached 18-25.5 quintals. In the Rodina and 50 let Oktyabrya kolkhozes of Konstantinovskiy Rayon and in the Pogranichnyy and Partizan sovkhozes and a number of other enterprises 17-33 quintals per hectare were produced.

In the fight for a large grain harvest during the fourth year of the five-year plan an active role was played by the collectives of industrial enterprises and structures, of transportation enterprises and of grain-reception enterprises. The drivers of motor vehicles of Primor'ye worked selflessly with Amur drivers. Many of them deserve the warmest words of thanks for their conscientious and highly productive work.

A great deal was done by the workers of grain-reception enterprises and of railroad transport in the uninterrupted reception, treatment and shipment of grain. Up to 20,000 tons of grain were received and shipped each day.

Rural workers received a great deal of help from the workers, employees and students of the Priamur'ye. From the cities of our oblast alone 6,000 people were sent to the harvest, including 3,500 machine operators. The collectives of industrial enterprises in the cities of Blagoveshchensk, Belogorsk, Raychikhinsk and Svobodnyy were especially helpful to rural workers.

With complete justification we can say that the grain of the fourth year of the five-year plan is the result of the selfless labor of all workers in the oblast.

In kolkhozes and sovkhozes the harvesting of soy and the stacking of straw were completed on schedule. A good foundation for the future harvest was laid. The oblast's enterprises stored the necessary amounts of grain crops, soy, potatoes. They have prepared late fall/winter plowed fields.

In summarizing the results of the past year, the directors and specialists of enterprises thoroughly analyzed the results. In our oblast there is still a great fluctuation in the productivity of grains, soy and other crops among individual rayons, enterprises and production subdivisions. Discovering the reasons for this, determining all that is leading and progressive in order to eliminate shortcomings and more fully utilize reserves for the continued growth of agricultural production--these are the main goals of rural workers at the present time.

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## MAJOR CROP PROGRESS AND WEATHER REPORTING

### REVIEW OF HARVEST IN ORENBURGSKAYA OBLAST

Moscow SEL'SKOYE KHOZYAYSTVO ROSSII in Russian No 1, Jan 80 pp 3-6

[Article by A. Kovalenko, first secretary of the Orenburgskaya Oblast CPSU committee, Hero of Socialist Labor twice: "The Orenburg Billion"]

[Excerpts] Another harvest has been completed on the fields of the oblast, crowning the intense labor of grain farmers with a new labor victory--the homeland's granaries have received 4 million tons of Orenburg grain, or 200,000 more than planned. The workers of the steppe kray dealt successfully with the goals of the 4 years of the five-year plan, sending 16.7 million tons, or over 1 billion poods, to the elevators. This boundary was reached for the first time. But even during the preceding years of the current five-year plan our oblast delivered 4.2 million tons of grain annually, which is 1.8 million more than during the ninth. This demonstrates that here grain production is becoming more and more stable.

Many of our achievements in increasing grain production are related to the feats of virgin-land farmers. It was the virgin lands which transformed the oblast into a large granary and the supplier of hard, strong and valuable wheats. A quarter of a century ago over 1.8 million hectares were plowed up in Orenburgskaya Oblast.

Here we remember the words of Comrade L. I. Brezhnev, "The ancient steppe has turned out to be heroic. Transformed by the labor of man, it has given stability to all of our agriculture and has secured a guaranteed quantity of grain in the necessary quantity. This land is gathering strength." Yes, it has rewarded grain farmers abundantly for their difficult labor. In Gayskiy Rayon this year they produced 18.1 quintals per hectare. In Adamovskiy Rayon 16.2 million poods were sold to the state; in Kvarkenskiy--15; and in Svetlinskiy--12. Great socialist goals were surpassed by the farmers of Dombarovskiy and Novoorskiy rayons. The virgin lands gave the state a total of about 1.4 million tons of grain, mainly of strong and valuable varieties.

The achieved success is the result of the persistent work of the oblast party organization and agricultural workers to raise the quality of farming, to improve the structure of sowing areas and to maintain proper crop rotations and the observance of the entire complex of agrotechnical measures.

Last year was the first year in which the decisions of the July 1978 Plenum of the CPSU Central Committee were fulfilled in practical terms. Equipping enterprises with powerful modern technology, the transition of agricultural production to an industrial base--these are the main features of our times. The requirements made of farmers have grown, the working conditions of modern grain farmers have become different and we were correct in thinking that all of this would affect the growth of field productivity and of grain procurement.

The grain fields of Orenburgskaya Oblast occupy 4,560,000 hectares, including almost 2.8 million in wheat. Over 73 percent of the grains were sown by means of the crossover and narrow-row methods. In comparison with 1978 more fertilizer was received: mineral--67,000 tons more and organic--3.5 million tons more. About 3 million hectares of grains were sown with the simultaneous introduction of granulated superphosphate into the rows. This is almost 1.5 million hectares more than in 1976. In our opinion the application of initial fertilizer secured a 2-3 quintal increase in yield.

Under our conditions the most productive crops are barley and oats. For this reason the correct action was taken by those kolkhozes and sovkhozes that decided to sharply increase their crop stands. In 4 years the areas in these crops have increased by over 300,000 hectares. They comprise 30 percent of grain crops.

An important resource was the accelerated introduction into production of new highly productive varieties which occupy 3.2 million hectares. Being widely used are winter rye Saratovskaya-4, winter wheat Mironovskaya-808 and Al'bidum-114, spring wheat of Saratov breeds, barley Donetskiy-4 and oats Astor.

Orenburg hard and strong wheats have an age-old fame. During the last 4 years their crop area has been increased by 1 million hectares, and now they occupy 90 percent of the wheat fields in the oblast. In comparison with the Ninth Five-Year Plan their procurement has almost doubled.

We probably would not have stable harvests if from year to year we did not combat water and wind soil erosion. In laying the foundation for last year's harvest we cultivated about 2 million hectares with counter-erosion technology and sowed 1.3 million hectares with stubble sowers. The soil-conservation system of farming was very successfully utilized in Adamovskiy, Svetlinskiy and Dombarovskiy rayons.

The late maturation of grains curtailed the harvesting schedule to the limit. We combatted the caprices of weather with a clear plan of harvesting operations while considering zonal characteristics of the oblast and the operational maneuvering of harvesting technology and transportation vehicles. The extensive utilization of the Ipatov method of labor organization enabled us to complete harvesting and threshing operations more quickly than in past years. Over 23,000 grain-harvesting combines, 18,200 reapers and 40,000 trucks and tractor-trailers belonging to 1,385 harvesting-transport complexes worked in the fields.

Each day grain was cut on 170,000-180,000 hectares. Combine output was 20 hectares, in pick-up-13 hectares, which is 1-4 hectares more than in 1978. This is the first time we have achieved such a pace.

Seven rayons completed the five-year plan for grain sales in 4 years--  
Sirochinskij, Sovoserglyevskij, Sol'-Ilets'kij, Abdulinckij, Totskij,  
Krasnogvardeyskij and Anzkeyevskij.

The total volume of grain procurement established for the five-year plan was significantly surpassed by 119 kolkhozes and sovkhozes in the oblast. In evaluating our achievements we follow the Leninist principles of going further, achieving more and moving toward more and more complex tasks. The oblast's grain farmers have decided to increase the gross grain yield during the 11th Five-Year Plan to 8-8.5 million tons. In order to achieve this it is essential to work better and to more fully utilize resources and possibilities. And they do exist here. This is demonstrated by the success of leading enterprises, scientific institutions and state variety plots.

Under the complex weather conditions of last year 25.6 quintals of grains per hectare were collected in the Voronezhskij Sovkhoz of Gayskij Rayon. The Urozhajnoye Testing-Demonstration Enterprise of the Orenburgskij Scientific-Research Institute of Agriculture, the Kolkhoz imeni Kalinin in Sol'-Ilets'kij Rayon, the Rodina Kolkhoz of Totskij Rayon, the Krasnyy Rayon Kolkhoz of Ponomarevskij Rayon, and the Mayskij Sovkhoz of Adamovskij Rayon produced 21-22 quintals per hectare. At the same time the variations in yield here are very large. In order to secure the growth of grain production on the basis of improving the quality of farming and of curtailing the time needed to complete all agrotechnical measures a more detailed and thorough analysis should be made of the reasons for the unsatisfactory performance of individual kolkhozes and sovkhozes.

Party, soviet and agricultural organs must do considerable work to further improve the structure of sowing areas, to increase the procurement of winter rye, groats and legume crops and sunflowers, for which we are still in debt to the state for all 4 years of the five-year plan. No less concern should be demonstrated for the further growth of production and improvement of quality of hard and strong wheats.

One of the greater resources for this is the more complete utilization of the advantages of the soil-conservation system of farming, the introduction of which is being held back because of the shortage of special machines and equipment. The orders placed by kolkhozes and sovkhozes for sweeps, cultivators, stubble sowers and needle harrows are filled by no more than 50 percent each year. No SK-5 Niva combines with headers encompassing 5-6 meters are being allocated. The ZhVN-10 reaper, which is irreplaceable for the harvesting of grains on large areas of virgin lands, is out of production. Even so, the question of producing reapers encompassing 10-15 meters and of delivering them to agriculture still has not been decided.

In the enterprises of the virgin lands and of remote areas loads must be shipped over long distances using the K-700 and K-701 tractors. But during the trips such transport units frequently break down because the trailers are delivered without spare wheels. As a result a large number of powerful machines remain idle.

In the oblast there is still a shortage of elevator and storehouse capacities, scales for trucks carrying large loads, grain loaders and automatic dumpers. In many enterprises the capacities of mechanized grain-cleaning floors do not secure a timely and quality treatment of the arriving grain.

At the present time more and more use is being made of large-capacity trucks with larger bodies and 2-3 trailers. However, enterprises and grain-reception enterprises are not prepared for this. They do not have the means to weigh and mechanically load and unload such trucks. As a result there are interruptions in the "field to threshing floor to elevator" conveyor.

Special attention should be given to raising the dependability and the high technical readiness of the machine-tractor fleet and to improving services to it. Of course, a great deal depends on us ourselves. We understand this and are doing a great deal.

Now oblast farmers have begun extensive competition to meet the 110th anniversary of the birth of V. I. Lenin and the 26th party congress with dignity. Fields have been plowed for spring crops. The repair of agricultural technology is proceeding in an organized manner. A firm foundation has been laid for the final year of the five-year plan.

The Orenburg fields can and must produce more grain. In answer to the decisions of the November 1979 Plenum of the CPSU Central Committee, oblast workers have decided not only to fulfill the five-year plan ahead of time but to significantly surpass it.

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## MAJOR CROP PROGRESS AND WEATHER REPORTING

### WINTER FIELD WORK IN TADZHIKISTAN REVIEWED

Moscow SEL'SKAYA ZHIZN' in Russian 7 Mar 80 p 1

[Article by K. Madaliyev (Tadzhik SSR): "In the Valleys of Tadzhikistan"]

[Excerpts] The rays of the sun are providing more warmth with each passing day in Tadzhikistan and warm winds are stirring in the valleys. The winter crops are growing in a rapid manner, the alfalfa plants are beginning to turn bright green in color and the almond trees are blooming in the extreme south. Taking advantage of the fine February days, the farmers have begun preparing their soil and sowing their grain crops and grasses. Field work is now being carried out in all rayons throughout the republic, with the exception of the mountainous rayons.

Despite the fact that the republic over-fulfilled its socialist obligation for selling cotton to the state last year, six out of 27 rayons failed to carry out their planned tasks. Approximately one third of the kolkhozes and sovkhozes had not fulfilled their obligations in behalf of the state.

The following facts were cited during a recent conference for agricultural workers. Although the Moskva and Leningrad kolkhozes in Kanibadamskiy rayon of Leninabadskaya Oblast operate under roughly the same soil-climatic conditions, nevertheless they obtained 33 and 22 quintals of cotton per hectare respectively. Compared to the leading farms in certain rayons of Kulobskaya Oblast and the Gissar Valley, the cropping power on the remaining farms is 10-8 quintals lower. One of the principal tasks of the grain growers is that of eliminating these differences.

This year the farmers of Tadzhikistan have vowed to produce and sell to the state 903,000 tons of raw cotton, with 300,000 tons of this amount coming from fine-fibred varieties. The plans call for a further increase in the cropping power of the grain crops, by expanding the areas used for growing short-stalk wheats of the intensive type and by introducing secondary sowings on irrigated land on an extensive scale.

The time is at hand for carrying out the plans and hundreds of sowing crews are working out on the fields. The work of preparing the soil has been completed on the overwhelming majority of farms and local fertilizers are being obtained for the purpose of applying early top dressings to the cotton crop. However, some of the work has fallen behind.

The operational data reveals that a large number of kolkhozes and sovkhozes in Kurgan-Tyubinskaya, Kulyabskaya and Leninabadskaya oblasts and in the Gissar Valley are proceeding very slowly with some tasks -- removing silt from the land reclamation network, leaching of saline land and the carrying out of additional waterings. A difficult situation has developed with regard to the preparation of the cotton seed. Only one half of the planned quantity of seed has been improved to the required conditions at the Kurgan-Tyube, Kanibadam, Kulyab and Khodzhentskiy cotton plants.

In order to make up for lost time, some enterprises choose to overlook quality. In particular, the people's controllers have uncovered flaws in the work being carried out at the Kurgan-Tyube Cotton Plant. Five hundred and eighty tons of prepared cotton seed obtained from fine fibred varieties had a fractionation rate of from 5.7 to 7.5 percent, which is considerably higher than the norm. Such seed should not be sown -- the sparse plantings will not produce a high yield.

The chemical disinfection work is being carried out on a tardy basis and the plan for preparing denuded seed is being disrupted. Instead of 1,000 tons, only slightly more than 300 tons of such seed have been procured. Last year the Seed Control Service rejected one third of this type of seed and this brought about a reduction in the area of precision sowing. Time is still available for preventing a repetition of mistakes and for correcting the situation in a rapid manner.

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## MAJOR CROP PROGRESS AND WEATHER REPORTING

### BRIEFS

**OPENING OF NAVIGATION--Kostov-na-Donu--**Navigation on the Don River has commenced very early this year. Powerful icebreakers have forged a channel through the hummocks of ice. Diesel cargo vessels can now ply between Anatov and the Azov Sea. A large portion of the cargoes to be transported by the river transport workers of the Volga-Don State Steamship Agency is to be delivered to leading construction projects of the five-year plan. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 27 Feb 80 p 1] 7026

**FOR THE FUTURE HARVEST--Odessa, 6 Mar--**The farmers are taking advantage of each favorable day by applying a top dressing to their winter crops and procuring local fertilizers. Up to 30 aircraft and helicopters of agricultural aviation and hundreds of tractor trailers are being employed on a daily basis for the purpose of applying mineral fertilizers and transporting organic fertilizers. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 7 Mar 80 p 1] 7026

**SOWING OF CHAIN CROPS--**Spring field work has commenced in the southern part of Uzbekistan. The farmers in Surkhandar'inskaya and Kashkadar'inskaya oblasts were the first to commence sowing their grain crops. [Text] [Moscow IZVESTIYA in Russian 7 Mar 80 p 1] 7026

**AGRICULTURAL AVIATION AT WORK--Tashkent--**Agricultural aviation has made an appearance above the fields of the Surkhan Valley. The aviators have commenced applying a top dressing of mineral fertilizers to the winter crops from the air. The abundant amount of precipitation experienced this winter is promoting good crop development. Mass tillering of the plants is taking place on almost the entire winter crop area of 58,000 hectares. [Text] [Moscow TRUD in Russian 27 Feb 80 p 2] 7026

**SOWING OF SPRING CROPS--Krasnodar--**The farmers in Anapskiy Rayon have begun sowing their early spring crops. They must sow peas for grain, oats and a pea-oats mixture on 2,000 hectares. [Text] [Moscow TRUD in Russian 27 Feb 80 p 2] 7026

**INCREASE IN SOYBEAN PRODUCTION--Tbilisi--**The production of soybeans is increasing on farms in Tskhakayevskiy Rayon. The five-year plan for the

production of this most important forage crop has already been fulfilled by 68.9 percent. The Tikhakayevskiy Rayon farmers are making thorough preparations for this year's spring sowing campaign. (Text) [Moscow TRUD in Russian 27 Feb 80 p 2] 7026

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## LIVESTOCK

### LIVESTOCK SITUATION, PROSPECTS IN LATVIA

Riga SOVETSKAYA LATVIYA in Russian 7 Feb 80 p 2

[Article by I. Penelis, chief, Meat Production Administration, Latvian SSR Ministry of Agriculture: "Make Fuller Use of Resources"]

[Text] At the 12th plenum of the Central Committee of the Communist Party of Latvia, major tasks for the further development of animal husbandry in the republic were determined. Special attention was given to its fastest maturing sector--pig breeding. In comparison to last year the number of pigs on kolkhozes and sovkhozes in Latvia as of 1 January 1980 had increased by 239,200 head, or by 20 percent. Something like 225,000, or 13 percent, more piglets were produced. For this end, 100,600 more sows were bred than as of 1 January 1979.

The end result of the process of increasing livestock numbers is the existence of piglets for fattening and sale to the state. Despite the large amount of work done at kolkhozes and sovkhozes, as of 1 January fewer of them were put on fattening than had been planned. Yelgavskiy Rayon in particular has a shortfall of 6,000 piglets, Saldusskiy--5,000 and Dobel'skiy--2,800.

What is behind the figures, why is it that for the republic as a whole and for some rayons specified plans of producing numbers for fattening have not been realized? Here you have a number of reasons.

Barrenness of sows is still high on farms. A total of 5.4 piglets per sow were produced on the average. It is true that this indicator is significantly higher on the farms of Ventspilsskiy, Valmiyerskiy, Madonskiy rayons, but in Kraslavskiy, Bauskiy and Balvskiy rayons one sow produced on the average 4.6-4.8 piglets. Barrenness of sows on kolkhozes and sovkhozes on the average amounts to 30 percent and is even higher in Bauskiy, Dobel'skiy and Rigniskiy rayons.

As we know, the main thing in animal husbandry is feed and the ability to use it efficiently. Last winter disclosed serious lapses in this matter. In particular, in the fattening of piglets grain in lightly roasted form was not used, and little use was made of mineral additives. On some farms,

directors and specialists acted irresponsibly in regard to the work, while, for example, the necessary order was not to be found this winter on the animal-husbandry farms of Dobele Sovkhoz. Last year this sovkhoz was supposed to produce 56,000 piglets, but actually it fulfilled only 76 percent of the target.

Feeding of pigs as yet does not correspond to the recommendations of scientists and the experience of pace setters. In the development of young stock, chalk and clay play an important role, but specialists on a number of kolkhozes and sovkhozes have not concerned themselves with providing all pig farms with such supplements. On most farms they are used to providing feed in unprepared form. Here and there they have become reconciled to feed kitchens not working and the system of supplying hot water being inoperative. But when crushed grain, potatoes and beet are not steamed, they do not produce the necessary effect.

Whey is very valuable, especially for piglets. The kolkhozes and sovkhozes of the republic are tied to dairy plants, but not all farms choose it in opportunely. Thus, in the first three quarters of last year, farms in the zone of Liyepaya Dairy Combine did not ship out in excess of 3,000 tons of whey. Ventspilsskiy and Kuldigaskiy rayons were particularly inert in this regard. Farms are given fish wastes for feeding pigs. Zaprybsbyt is very helpful here, but not everybody uses this valuable protein feed; I will point out in particular Balvaskiy, Liyepavskiy, Rezeknenskiy and Stuchkinskiy rayons.

Daily weight increases of pigs that are being fattened amounted to as of 1 January 375 grams as an average for the republic--18 grams less than last year. Weight increases have been especially low on the farms of Balvaskiy, Ventspilsskiy, Ludzenskiy and Talsinskiy rayons. We cannot accept such a loss for pigs, especially young stock. All steps should be taken to ensure getting a normal increase and preservation of the number of the stock.

Much has been done on the kolkhozes and sovkhozes of the republic in regard to intensive construction of livestock barns, in particular those of the light type. The duty of builders is to take all steps for the quickest possible completion of uncompleted live-stock farms, while animal-husbandry workers have to see to it that every new piggery is well prepared for the receipt of stock, especially weaned piglets and sows in farrow. Latgipro-sel'stroy Institute should better check on its facilities and listen more attentively to the opinion of workers of animal-husbandry farms. In many new barns, it is impossible to maintain the necessary temperature; the cubic content of sow piggeries must be smaller; more suitable conditions should be provided for feed preparation and cleaning. Construction volume will be increased, but, despite this, it will be necessary to modernize the old piggeries.

This year major tasks will have to be carried out relating to the further development of animal husbandry. All the resources exist for maximum preservation of the number of livestock, and their productivity should not be

allowed to decrease. An example of this is shown by our pace setters, who love their work and strive for it with all their soul. Thus, A. Vanaga from the Lukna Pig-Breeding Complex of Vishkskiy Sovkhoz-Tekhnikum of Daugavpilskiy Rayon attained a 646-gram average daily weight increase in fattening 2,261 pigs. A. Zemite from Liyelupe Sovkhoz of Limbzhaskiy Rayon achieved an average daily weight increase of 659 grams, L. Moroza of Lenina Krops Kolkhoz of Rezchnenskiy Rayon--560 grams. Swineherd V. Gaylisha of Kolkhoz imeni Kirov of Ludzenskiy Rayon obtained on the average more than 24 piglets from a sow and T. Fedotova from Briviba Kolkhoz of Kraslavskiy Rayon--more than 23.

At the present time selection and breeding of sows is proceeding on the farms to provide the increase in the first half of 1980. Tasks have been set for each kolkhoz and sovkhoz. There are to be produced 1,200,000 piglets--30 percent more than for this time last year. For four months of 1979 (September-December), 16,900 more sows were bred than last year, but the target for the republic was fulfilled 92 percent. In order to fulfill the plan for production of piglets in the first half of the year, it is necessary to provide for an additional selection of sows so that each bred sow produces a minimum of 6.2-6.5 piglets.

It is a matter of honor for the animal-husbandry workers of the republic to obtain bigger results in work and to worthily commemorate the 110th anniversary of V.I. Lenin's birth and the 40th anniversary of the restoration of the Soviet power in Latvia.

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## LIVESTOCK

### IMPROVED PROSPECTS IN LATVIA SUGGESTED FOR ANIMAL HUSBANDRY

Riga SOVETSKAYA LATVIYA in Russian 14 Feb 80 p 1

[Lead article: "Rural Workers--in an Urgent Effort"]

[Text] The agricultural workers of Soviet Latvia are engaged in an urgent Leninist effort in the concluding year of the Tenth Five-Year Plan. The socialist competition is achieving an increasingly broader scope on kolkhozes and sovkhozes. The socialist commitments made by the republic serve as an inspiration for the achievements of new advances in field work and animal husbandry. Farms are observed to be making better use of equipment and employment of new forms of labor organization. Pace setters ranks are growing, and the best experience accumulated in all sectors of agricultural production is being utilized more advantageously.

The coming 110th anniversary of V.I. Lenin's birth is creating a large political and labor upsurge among rural workers. New initiatives aimed at ahead-of-schedule fulfillment of targets are being made in the course of the jubilee effort. Initiatives leading to higher efficiency of production and better quality of work are finding support. Kolkhoz farmers and sovkhoz workers are preparing labor presents for the celebration of the 40th anniversary of the restoration of the Soviet power in Latvia and the 35th anniversary of Victory over fascist Germany. Rural workers are actively preparing for the forthcoming elections to the Latvian SSR Supreme Soviet and local soviets of people's deputies.

The most important task now being resolved by kolkhozes and sovkhozes is that of wintering of livestock. The chief and primary attention is being directed these days to animal-husbandry farms. Animal-husbandry workers are receiving every possible assistance and support. After last year's severe winter, the main sector of our agriculture must solidly stand on its legs, overcome present difficulties, not allow losses and achieve a high level of productivity.

The efforts of rural workers and intensive work of party, soviet, trade-union and komsomol organizations in the fulfillment of the decisions of the 25th CPSU Congress and also of the 12th plenum of the Central Committee of

the Communist Party of Latvia are yielding perceptible results. Our farms have started the concluding year of the five-year plan with larger numbers of livestock compared to the beginning of last year. For neat cattle, this growth amounts to three percent, while the cow herd increased by four percent. The number of pigs has grown 20 percent and the number of poultry 7 percent.

Directors of farms, specialists and all personnel of the sector were able to take advantage of favorable possibilities for increasing the production of animal-husbandry products. The big work done provided for growth of sales of these products to the state and, therefore, an improvement in supply to the population. Compared to the beginning of last year, 25 percent more livestock and poultry were sold in January. Eleven percent more milk was purchased, and the sale of eggs increased by the same percentage. The public sector taken by itself provided 35 percent more livestock and poultry.

After the 12th plenum of the Central Committee of the Communist Party of Latvia, serious efforts were made in the direction of further development of pig breeding. Like the farms themselves, many other organizations, ministries and departments and enterprises patronizing the rural sector have made a serious contribution to this work of the people. Many new animal-husbandry barns were built, zootechnical services were improved and the level of all work on animal-husbandry farms was raised. The effectiveness of these organized and purposeful efforts is well expressed by the fact that in January more than 15,000 pigs were sold to the state than in January of last year. Work in the field of efficient operation of pig breeding is continuing.

With few exceptions, almost all rayons successfully reached their targets for sale of animal-husbandry products. The necessary regularity in this work is being ensured. For example, in January farms fulfilled 30 percent of their quarterly milk-sales target. Such rayons like Balvskiy, Rezeknen-kiy and several others in the last two weeks increased the sale of milk from 20 to 22 percent compared to the same period last year. Eighteen rayons reached the target for sale of meat in January; of these, special mention should be made of Valkskiy, Daugavpilsskiy and Rizhskiy rayons. The average weight of neat cattle coming from Rizhskiy Rayon was 480 kilograms.

As the result of a rise in the responsibility of farm directors and party organizations and specialists, the care of livestock is being improved, and feed is being used to the biggest advantage. This in the final analysis leads to greater productivity of animal-husbandry farms. In January all rayons succeeded in raising milk yield, although the difference among individual rayons is quite large--from 3 to 33 percent. With respect to this indicator the lead is provided by Rizhskiy Rayon--33 percent increase, Stuchkinskiy Rayon--32 percent, Gulbenkiy--26 percent, Valmiyerskiy--24 percent, Balvskiy--23 percent, Aluksiyenovskiy--22 percent. For the republic as a whole, the January milk increase amounted to 12 percent.

The presented data show that considerable work has been done in the republic's agriculture aimed at boosting animal husbandry and other sectors of production and overcoming the damage inflicted by the unfavorable weather conditions of prior years. Party and soviet organs, collectives of farms have shown in this an understanding of the problems facing them and a responsibility for the entrusted task. Our animal-husbandry workers have frequently displayed real labor heroism. All this indicates that our agriculture today is capable of successfully solving the major tasks facing us both in the concluding year of the Tenth Five-Year Plan and in the following five-year period.

At the present time, the main thing in animal husbandry is to preserve the health of livestock and to boost its productivity. The discarding of these or those kinds of livestock must not be permitted. The main concern here should be with better feeding, preparation of feeds and proper compilation of rations. Compared to last year, farms this year started out with a bigger amount and better quality of fodder. The state is also providing aid in this to kolkhozes and sovkhozes. The attention of specialists and all animal-husbandry workers should be concentrated on able economical use of existing fodder stocks.

The proper and rational feeding of livestock is connected with intensive use of feed kitchens and feed shops on the farms; due attention to this is not being given everywhere, although for the republic as a whole, 25,000 tons of feed mixtures have already been prepared this winter. This work should be continued more energetically and with greater demands on those doing this. Significantly more straw has been processed this winter than last year, but this is a very important matter and it should be carried out on each farm with all the necessary energy. Better use should be made of coniferous needles, branch fodder and microelements.

Spring field work is drawing near. Preparations for spring should be conducted along all lines. The farms of all the rayons have the opportunity of fulfilling specified plans for sowing spring crops in better time and to care for winter crops and to do other work in a model manner. Our republic has come out with an initiative aimed at carrying out early repairs of tractors and other equipment in agriculture. This increased the responsibility of machine operators and brought on a rise of competition in repair shops. The repair is going better this time than in past year, which guarantees the timely emergence of the machines in the fields. Machine-operator cadres are being trained in the rayons.

The areas designated for spring crops have been fully provided with seeds. For the republic as a whole, more than 70 percent of the seed material has been brought up to the necessary conditions, although this work is proceeding slowly at a number of farms. It is necessary to speed up the preparation of the seeds, make the necessary exchanges and provide oneself with the

necessary varieties. It is planned this year to expand areas for such high-yield strains of barley as Otra and Nadya and for oats--Sel'ma. Special attention is being given to the expansion of sowings of high-protein crops.

The task is to conduct work in agriculture within the complex in an organized manner and according to well thought out plans. It is necessary to increase the discipline and responsibility in all parts of production. The coming elections to the republic Supreme Soviet and local soviets of people's deputies will produce a new patriotic and labor unsurge. Deputy candidates include the best people from our village, who will serve as an example of love of work and devotion to the cause of building communism.

The urgent labor effort in the countryside is creating the confidence that the republic's agriculture will achieve new major successes in the final year of the five-year plan. By mobilizing all their energies to boost farming and rural husbandry and to introduce the new and advanced to our fields and farms, rural workers will make a worthy contribution to strengthening the might of our Motherland.

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## TILLING AND CROPPING TECHNOLOGY

### PROBLEMS WITH SOYBEAN CULTIVATION IN VOLGA AREA DISCUSSED

Moscow SEL'SHAYA ZHIZN' in Russian 13 Feb 80 p 2

(Article by F. Cubanov, candidate of agricultural sciences, director of the laboratory of the Volzhskiy Scientific Research Institute of Hydraulic Engineering and Reclamation, Engel's, Saratovskaya Oblast: "The Soybean Field of the Volga Area")

(Text) The soil and climatic conditions of the Volga area are favorable for the cultivation of such a crop as the soybean for grain.

At present soybean grain harvests on most farms in the Volga area are very low and a number of kolkhozes and sovkhozes do not obtain them at all. At the same time, there are many examples of a harvest of 25 to 30 quintals of the grain of this crop per hectare. For example, during the last 5 years the Marks State Pedigree Poultry Breeding Farm in Saratovskaya Oblast has obtained 13 to 15 quintals of soybean grain per hectare on an area of 300 to 500 hectares and up to 29 quintals on some plots. Yet, quite recently 3.5 quintals were threshed there and the areas did not exceed 50 hectares. The Novoaleksandrovskiy Sovkhoz in Saratovskaya Oblast, the Sovkhoz imeni K. Marks and the Meliorator Sovkhoz in Volgogradskaya Oblast, the Poinechnyy and Privilzh'ye sovkhozes in Kuybyshevskaya Oblast, the Komsomolets Sovkhoz in the Kalmytskaya ASSR and other farms obtain 11 to 22 quintals per hectare.

However, the average soybean crops in the Volga area are still very low. Why?

In our opinion, a certain "psychological barrier" is one of the reasons. Some managers of farms and agricultural bodies do not accept the soybean. It is hard for them to believe that the traditional crop of the Far East can grow in the Volga area and yield a high grain harvest. Efforts have even been made to demonstrate the impossibility of soybean cultivation in the country's European part.

Among other reasons the lack of regionalized varieties should be put in the forefront. One variety, VNIIS-2, was legalized in the Volga area for Saratovskaya Oblast alone. Of course, such a gap leads to an influx of

unpromising and unproductive varieties sometimes totally unsuitable for cultivation in this zone, which we observe in practice. For example, the late-ripening American variety Beason is sown in Volgogradskaya Oblast and is annually harvested for green fodder. The same can be said about the Amurskaya-41, Amurskaya-310, Kirovogradskaya-4 and Merit grown in Kuybyshevskaya Oblast.

In all fairness we would like to say that in Saratovskaya Oblast the situation with regard to the varietal composition of soybeans is more or less satisfactory. In 1979 more than 70 percent of its sown areas was occupied by the VNIIS-1 variety, which ensures a high grain harvest and has a shorter vegetative period than VNIIS-2.

In connection with the fact that the strain testing plots of the Volga area have begun testing soybean varieties quite recently and on the basis of their work results it is not yet possible to regionalize the varieties, as an exception it is possible to direct farms to the data of scientific research institutions and thereby to stop the influx of unpromising "new-comers." Evidently, there is an urgent need to examine this problem in the USSR Ministry of Agriculture. This is also necessary, because in the absence of regionalized varieties, the base seed breeding farms established in all the oblasts of the Volga area are deprived of a strain allowance, which also means of material incentives.

The fact that, indeed, base seed breeding farms in no way differ from ordinary farms is also a big omission in the organization of soybean seed breeding. For example, it would be correct to unify them into Sortsoyeprom or, failing this, to transfer them to the existing trusts for the breeding of seeds of perennial grass and pasture crops, providing them with special storage facilities for seeds, mechanized seed cleaning and drying complexes and special agricultural equipment.

The world practice and experience of socialist countries have shown that the concentration and specialization of production in any sector produce the greatest effect.

In the Volga area from the very beginning soybean sowing should also proceed along the line of farm specialization and production concentration. Only in this case is it possible to expect success. However, what turns out in practice? Forces and funds are dissipated. In 1979 in Volgogradskaya Oblast only one out of the 12 soybean cultivating farms—the Novozhiznenskoye Experimental Production Farm—had a sown area of more than 100 hectares. On the other farms it totaled 21 to 50 hectares. In Kuybyshevskaya Oblast only two out of 17 farms sowed soybeans in 94 and 120 hectares and 12 had 8 to 50 hectares. A similar picture was also observed in Saratovskaya Oblast.

Soybean production must be concentrated and certain conditions must be created for this. In the present situation, when a farm is given a soybean production plan and there is no adjustment for other crops, it is

hardly possible to expect a significant increase in areas sown with soybeans. Farms are reluctant to do this. Why? Only money is paid for soybean seeds. Of course, money does not hurt, but it is much more important for a farm to have fodder or gross grain output. As a result, the hectares occupied by soybeans are alienated, as it were, from the farm, because it does not obtain fodder on them and, if it does, not as much as it could obtain, for example, from alfalfa. It also loses on the grain "volume." Therefore, for soybean sowing farms the plans for the sale of grain should be corrected with due regard for the area sown with soybeans and the privileges for the purchase of mixed feed, oil seed meal and cakes should be expanded. It is also advisable to introduce a standard coefficient for soybean grain sold instead of other grain crops. For base seed breeding farms these privileges should be expanded even more.

The fact that specialists and machine operators are not familiar with the biology of soybeans and disregard the requirements of plants on water and food regimes and on meteorological conditions is one of the reasons for the low soybean harvests in the Volga area. Hence the errors in the selection of varieties and gross violations of technology. Most often farms cannot obtain good and full sprouts.

Meanwhile, scientific institutions have developed a reliable set of measures beginning from the selection of a predecessor, application of fertilizers and prompt quality fall plowing. Special significance is attached to presowing irrigation, which is carried out 4 to 5 days before sowing at a low rate (250 to 350 cubic meters per hectare). This agricultural method in combination with others should become mandatory when soybeans are cultivated in the Volga area. The selection of the method of sowing and of the optimum rate of seed consumption is another important factor. Under our conditions the strip and two-line sowing plan (45+15 cm) is most acceptable for early- and medium-ripening varieties and the wide-row plan with interrows 60 cm wide, for medium- and late-ripening ones. From 0.6 to 1.0 million seeds per hectare is the optimum sowing rate for the former and 0.35 to 0.4 million, for the latter.

A violation of the irrigation regime, especially the underwatering of crops, is dangerous to the soybean harvest. As observations show, from the time of sowing until the beginning of July farms successfully maintain the regime. Soybean plantations have a marvelous, highly promising appearance. At that moment, however, agronomists erroneously assume that success has already been ensured and stop the irrigation. Yet it is precisely during that period that crops enter a critical state with regard to moisture and even more intensive irrigation is needed!

For the sake of persuasiveness we shall cite only one example. In 1979 the Pobeda Kolkhoz in Marksovskiy Rayon, the experimental production farm of the Volzhskiy Scientific Research Institute of Hydraulic Engineering and Reclamation and the Marks State Pedigree Poultry Breeding Farm with the same sowing method obtained normal sprouts of soybeans of the VNIIS-1

variety. In their care there were also very few differences and by 25 July all three plots promised to yield a high grain harvest: on the experimental production farm of the Volzhskiy Scientific Research Institute of Hydraulic Engineering and Reclamation, 27 to 28 quintals, on the Marks State Pedigree Poultry Breeding Farm, 18 to 20 quintals and on the Pobeda Kolkhoz, 23 to 25 quintals per hectare. Soon, however, the picture changed. The point is that the Marks State Pedigree Poultry Breeding Farm and the Pobeda Kolkhoz did not irrigate the fields any more, while the experimental production farm of the Volzhskiy Scientific Research Institute of Hydraulic Engineering and Reclamation carried out another sprinkler irrigation on 8 August (450 cubic meters of water per hectare), because at that moment, when the formation of the reproductive organs of soybeans continued and grain swelling occurred, the meteorological conditions worsened and without an artificial soil moisture soybean plants could not grow and develop normally. The final result has clearly shown to what a premature stoppage of vegetative irrigation leads. The experimental farm of the Volzhskiy Scientific Research Institute of Hydraulic Engineering and Reclamation gathered 25.1 quintals of soybean grain, the Marks State Pedigree Poultry Breeding Farm, 14.2 quintals and the Pobeda Kolkhoz, only 6.6 quintals per hectare.

Another factor in lowered grain output--losses during the harvesting of soybeans due to a high cut of plants--must also be mentioned. The soybean varieties sown in the Volga area have a low attachment of pods (5 to 8 mm), but they are cut not below 12 to 15 cm. In the process the tallest-weight and most valuable pods remain unharvested. For this and other reasons grain losses on various farms range from 5 to 25 percent and at times reach 40 to 50 percent. Despite the fact that there are recommendations for the reequipment of combines, at best farms confine themselves only to attaching rubberized tapes to reel blades and to reducing the number of revolutions of the thrashing drum without lowering the height of cut of plants. Nor should it be forgotten that other factors affect the operating conditions of a combine, that is, weediness of fields, poor quality of interrow cultivation and bad weather. The elimination of the harmful effect of these factors on the harvest is attained by purely agrotechnical methods.

The selection of a variety, optimum sowing period and application of desiccants make it possible to begin harvesting earlier and to complete it in time. A correct application of herbicides, harrowing before and after the appearance of sprouts and quality interrow cultivation make it possible to keep fields clear of weeds. Packing before and after sowing, operational field leveling and the use of subsurface working elements and scuffle knives in interrow cultivation make it possible to have a flat surface and to cut beans low with a stable combine operation.

If the above-mentioned factors hampering an increase in the yield of soybeans are eliminated, in 1980 kolkhozes and sovkhozes in the zone will be able to obtain, on the average, a minimum of 10 quintals of high-protein

strain per hectare and to raise the yield of soybeans to 15 quintals in the next few years.

The Volga area can and should become one of the country's reliable soybean sowing regions!

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CCO: 1824

## TILLING AND CHOPPING TECHNOLOGY

### BRIEFS

INTENSIVE WINTER WHEAT--Ukrainian SSR--Working on the development of intensive-type winter wheat, scientists at the Ukrainian Scientific Research Institute of Plant Growing, Selection and Genetics imeni V. Ya. Yur'yev transferred another such variety--Polukarlik-3--for state tests. It was bred as a result of two series of crossings accompanied by selection. At first breeders used the Karlik-1 wheat obtained at the Krasnoyarsk Scientific Research Institute of Agriculture and the Mironovskaya-808 variety. From them the offspring inherited a short size and high winterhardiness. Then the Khar'kovskaya-1 wheat was included in the crossing. It is noted for a good winterhardiness and drought resistance. During the years of the competitive check at the institute in its yield Polukarlik-3 exceeded the standard by 9 quintals. Last year, which was very dry, the difference was smaller. Nevertheless, the increase totaled 3.6 quintals of grain. Under favorable conditions on well-fertilized soil the variety most fully reveals its potentials and against such a background its harvest reaches 70 and even 100 quintals per hectare. The culm of Polukarlik-3 is small--approximately 80 to 90 cm. It is good to cultivate it on abundantly fertilized irrigated and nonirrigated land, because the plant stem is firm and the crops do not lodge. Text / Moscow SEL'SKAYA ZHIZN' in Russian 1 Feb 80 p 3/ 11,439

AGRICULTURAL SUPPORT POINT--Mary--A support point for an accelerated reproduction of new varieties of grain and fodder crops developed by Siberian breeders operates on the Kolkhoz imeni 1 May in Vekil'-Bazarskiy Rayon. The sprouts of 16 promising wheat and alfalfa varieties are already developing on fields. Candidate of Agricultural Sciences A. Saparov, director of the support point, expects to reap a harvest during the first 10-day period of May. At the end of the month the seeds obtained there will be sown on the plots of the Siberian Scientific Research Institute of Plant Growing and Selection. Thus, owing to the support point, each new variety will yield two seed harvests in 1 year. The cooperation between the scientists and practical workers of Siberia and Turkmenia will make it possible to sharply accelerate the rates of breeding and reproduction of highly productive varieties of wheat and of other crops. Text / Moscow SEL'SKAYA ZHIZN' in Russian 1 Feb 80 p 3/ 11,439

RYE CULTIVATION IN BELORUSSIA--Minsk, 16 Feb--The condition of rye crops is satisfactory. This is the conclusion of the agrometeorologists who inspected Belorussia's cultivated winter fields. The plants tolerate the complex wintering conditions satisfactorily. The higher agrotechnical level has had an effect. Rye of the Delta variety, which yields stably high harvests, occupies the main areas. At the same time, farms have begun to cultivate the short-stem Voskhod-1, Chulpan and Belorusskaya-23 varieties, which are more resistant to lodging. According to the data of inspections by agrometeorologists specialists determine the measures of crop care. With due regard for the characteristics of every field it is recommended that in the spring farms topdress and harrow all sown areas and treat the plots that promise a high harvest with preparations preventing plant lodging. Machine operators have already equipped units for a root application of fertilizers. Many farms have decided to gather no less than 32 quintals of grain per hectare this year. On the whole, the republic's farmers plan to obtain more than 3 million tons of rye from an area of over 1 million hectares. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 17 Feb 80 p 1/ 11,439

UZBEKSKAYA-2 SOYBEAN VARIETY--Tashkent--Uzbekistan's farms have allocated 2,000 hectares of arable land for the new Uzbekskaya-2 soybean variety. This variety bred by scientists at the Uzbek Scientific Research Institute of Rice has received a high rating during state tests. At the Namanjan, Srednechirchikskiy and Samarkand strain testing plots it yielded an average of 27 quintals of pods per hectare--twice as much as the standard Krasnodarskaya and Kubanskaya varieties. A high protein content--up to 34 percent--is among the valuable properties of Uzbekskaya-2. Uzbekistan's scientists bred two more highly productive soybean varieties and transferred them for state tests and developed soybean cultivation techniques under local conditions. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 10 Feb 80 p 3/ 11,439

APHID RESISTANT WHEAT--Wheat and rye, barley and oats, millet and rice--all these and a number of other cereals can be severely affected by aphids, especially during warm and moist weather. Leaves damaged by these dangerous insects turn yellow and dry up and plants lag in their growth and often die. This results in a sharp decline in the harvest and quality of grain. Chemical agents are used in increasing frequency to protect crops against aphids. However, they are expensive and cannot be used always. For example, the common greenbug produces up to 10 or 15 generations annually. Taking this into consideration, scientists search for more accessible and effective measures of crop protection. The development of varieties resistant to damage by aphids is one of them. After a prolonged search breeders succeeded in finding a reliable source of immunity to aphids. It is one of the local Argentinian rye varieties. Through hybridization the chromosome link that determines the resistance to aphids can be transferred from rye to wheat. In the last few years breeders in a number of countries, where the greenbug

does great damage to crops, through crossings imparted this property of resistance to several varieties of short-stem winter wheat. Plants noted not only for an enviable resistance to damage by the greenbug, but also for good harvests of grain of high milling and baking qualities, were isolated from the fourth generation of hybrid wheat. It is assumed that in this way in the next few years it will be possible to develop wheat varieties whose crops will be highly resistant to this dangerous pest. Text/ Moscow SEL'SKAYA ZHIZN' in Russian 1 Mar 80 p 3/ 11,439

CSO: 1824

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USSR REPORT: Economic Affairs  
USSR REPORT: Construction and Equipment  
USSR REPORT: Military Affairs  
USSR REPORT: Political and Sociological Affairs  
USSR REPORT: Energy  
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USSR REPORT: Consumer Goods and Domestic Trade  
USSR REPORT: Human Resources  
USSR REPORT: Transportation  
USSR REPORT: Translations from KOMMUNIST\*  
USSR REPORT: PROBLEMS OF THE FAR EAST\*  
USSR REPORT: SOCIOLOGICAL STUDIES\*  
USSR REPORT: USA: ECONOMICS, POLITICS, IDEOLOGY\*

USSR SERIAL REPORTS (SCIENTIFIC AND TECHNICAL)

USSR REPORT: Life Sciences: Biomedical and Behavioral Sciences  
USSR REPORT: Life Sciences: Effects of Nonionizing Electromagnetic Radiation  
USSR REPORT: Life Sciences: Agrotechnology and Food Resources  
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WORLDWIDE SERIAL REPORTS

WORLDWIDE REPORT: Environmental Quality  
WORLDWIDE REPORT: Epidemiology  
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WORLDWIDE REPORT: Nuclear Development and Proliferation  
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**DATE FILMED**

11 April 1980

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